

## Repeated cuts forecast for SRC budget

by David Dickson,  
Science Correspondent

The Science Research Council's budget is likely to be cut repeatedly over the next five years, the council's chairman, Sir Samuel Edwards, said last Wednesday week.

Presenting evidence on behalf of the council to the science sub-committee of the House of Commons Select Committee on Science and Technology, Sir Samuel said that although future distribution of funds between the different research councils had yet to be announced, this seemed a likely outcome.

Up to the present, the council's solution to cuts had been in "strategic" areas of "big science". In particular nuclear physics and astronomy.

"My big worry is that if the financial situation of the country gets worse, then we may have to start arranging some of the less expensive activities financed by the

council's science and engineering boards", he said.

Sir Samuel said the dual support system was a major part of the difficulty, particularly as any squeeze in the £100m a year support for research provided through the University Grants Committee would undermine the effectiveness of SRC support for university-based research.

"Part of the problem is that, whereas in the past universities have agreed to take over some of the costs of research projects initially supported by the SRC, today vice-chancellors are saying that they cannot give such a guarantee".

Asked to reply to the criticism that some new universities and polytechnics felt they were under-represented on SRC committees, Sir Samuel said that the council was aware of this problem, and had already instituted minimum levels of representation, although it was often difficult to find people with established research reputations in some of the newer institutions.

## Oxford Union seeks £750,000

A public appeal will be launched in a few weeks to raise £750,000 for the Oxford Union Society.

The union must become a registered charity to launch the appeal and plans for this are well advanced. A poll of 100 members last month approved the proposal by 715 votes to 236.

Part of the £750,000 will go to paying off roughly £70,000 worth of debts—£16,000 to the university and about £50,000 to the bank—but £200,000 is needed for structural repairs.

Chairman of the appeal committee, Mr Michael Soole, 20, a third year politics, philosophy and economics student of University College, said last week: "The new charitable trust will be called the Oxford Literary and Debating Trust. It has already been approved by the Charity Commissioners and will be for the advancement of education in Oxford by the provision of debates and libraries."

The bulk of the property will be conveyed to the new trust, and the appeal money will be used for grants for education and libraries.

## Confidence crisis rocks university bookshop

by Mark Jackson

Dillon's, the London University-owned bookshop chain, has embarked on an urgent drive to win back the confidence of the university's librarians, many of whom no longer use it because they claim it is inefficient.

The company has now persuaded leading publishers to grant it extended credit terms in help to weather an acute cash flow and management crisis which have threatened its existence.

A new chairman and a new managing director have been appointed during the last month by the court of the university. They have embarked on a crash reorganisation of the sales, accounting, and stock-taking methods, and are planning major changes in the financial and staff relations policies, including the appointment of a new director.

Dillon's, set up as a charitable trust by London University nearly 20 years ago, now sells more than £2.5m worth of books a year, but faces a loss of £57,000 in the financial year ending next March.

But the immediate threat to the company is not the deficit—which the university is expected to cover—but its inability to find enough cash to pay its current bills. During recent weeks, several major publishers, including Heinemann Educational and the Book Company, have cut off credit to the publisher owed around £30,000.

Mr Ken Stephenson, the company's new chairman, explained that a major factor in the company's crisis was the large amount owed by its big customers. Among the worst offenders are the universities.

But Dillon's new managing director, Mr John Shotton, says that while the defects of university accounting procedures in London and elsewhere do create long delays or lead to loss of revenue, the company's main problem lies in its own lack of effective credit controls and accounting checks.

Mr Stephenson and Mr Shotton have taken over in the last few months respectively from Mr Peter Parker, who resigned on June 10, and Mr Peter Stockham, who has now become a part-time director. Another director, Miss Tina Dillon, who founded the bookshop for the university, has given up her post as deputy chairman. She has been replaced by Sir Douglas Logan, principal of London University.

An important factor in the management changes was a sales survey initiated without reference to top management by a group of the company's middle managers, which estimated that Dillon's was only getting around a tenth of the firm or so of which a university spends annually on books.

Most of the librarians questioned in the survey said they had stopped dealing with Dillon's or cut down on their orders because of inefficiency on the part of the bookshop. Some complained of the accounting, but most talked of "appalling service and chaos" in dealing with orders which they said had grown worse over the past two years. A small minority praised the company's service, or said that other booksellers were no better. One of the principal university schools refused even to see anyone from Dillon's.

The managers reported to the board that they considered the company "perfectly justified"—TJS.

## Get involved with science says Beswick

A call for greater public participation in scientific and technological decision making has been made by Lord Beswick, Minister of State at the Department of Industry.

Addressing a meeting of science and technology ministers of member countries of the Organisation for Economic Co-operation and Development in Paris last week, Lord Beswick said we must develop a system of public involvement in such issues.

"We must constantly seek improvements in communication, so that decisions which may well affect our future well-being are made with knowledge and consent", he said.

"We will need to encourage participation in society at large, to encourage the press and television to contribute further to the discussion of the social implications of science and technology."

In particular, Lord Beswick said that more could be done through the education system to secure a deeper understanding of the wide implications of science and technology and the need always to give proper weight to moral and cultural values.

"Finally, we need to encourage the social responsibility of scientists and technologists, so convincing illustrations recently by the way side have alerted the world to the potential dangers of some aspects of genetic engineering", he said.

## College may lose teaching places

Shenstone New College, Bromsgrove, could lose its teaching places if recommendations from Hereford and Worcester Education Committee are accepted by the county council later this month.

A meeting of the committee of the local authority on 21-22 to recommend to Hereford and Worcester County Council that a proposed merger between Shenstone, Bromsgrove College of Further Education to form a centre for higher education should go ahead but without teacher training places.

The 1,100 teacher training places allotted to the county after the merger of the county with Hereford and Worcester College of Education (600) and Hereford College of Education (500).

## 'Public spending will affect social policy'

Government policy would be largely influenced by consideration of the way social issues were affected by public expenditure, Sir Kenneth Berrill, head of the Government Central Policy Review Staff, said last week. He was speaking at a research seminar organised by the Centre for Studies in Social Policy, University of Oxford, and the Open University, and attended by senior Government officials and academics.

The seminar concentrated on the importance of measuring the effects of public expenditure on areas such as education, housing and the social services.

## NEXT WEEK

Undergraduates and books: reference special inset  
David Walker on the University of the West Indies  
CAFÉ column  
A Level and After  
Tim Albert on the survival game at Lancaster University

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# Higher Education SUPPLEMENT

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## British firms form overseas project agency

by Frances Gibb

Three major companies have jointly set up an agency to provide a management service for large educational projects overseas.

The agency, called Millbank Technical Services Education (MTSE) Ltd, has been formed and financed by John Laing International, George Wimpey and Co, and Millbank Technical Services in collaboration with the British Council.

It will coordinate and supply expertise in all areas involved in educational projects overseas: equipment, design, construction and vocational training.

The advantage for overseas countries is that they will deal with one body rather than a number of individual firms, which will integrate the training, provision of staff and equipping of buildings.

The unit was formed jointly after consideration between the British Overseas Trade Board and Millbank Technical Services to deal with a major project between Saudi Arabia and the British Council involving the building of a seven-faculty university.

Millbank Technical Services Ltd is a subsidiary company of British Crown Agents, who are commercial agents for overseas governments. Millbank Technical Services tenders for contracts involved in BCA's projects, gives advice and offers a general management service.

The British Council's new Paid Educational Services Unit (PES), set up to assist developing nations mount educational projects as part of a package deal which includes contracts with British industry, will manage the educational work of the new unit.

Mr Derek Berrill, controller of the education and science division of the British Council, said: "We are delighted to support educational efforts from MTSE, but we must consider if in a given country's situation there is a role for its approach, or whether another is more suitable."

General Sir John Hackett, principal of King's College, London, who originally proposed setting up such a unit, said that MTSE did not really meet the needs as he saw them.

## Too many books, Sir Frederick says

Sir Frederick Dainton, chairman of the University Grants Committee, echoed the fears of many book-sellers and librarians at a conference on students and books at the weekend that there had been a "wild uncontrolled production" of books during the past 10 years.

Sir Frederick suggested that universities could make do with fewer books, if authors and publishers thought more carefully about texts, particularly within the context of courses. Too many books would submerge the poor student in an ocean of printed matter.

Dealing with university libraries, Sir Frederick argued that funds would be better spent on improving existing buildings rather than on capital programmes for new ones. A UGC working party was looking at questions of library use and development.

Leader, July 12, page 12  
Conference report, pages 13-15

## 'UGC uses student numbers as sole basis for distribution'

by Alan Cane

The University Grants Committee may be contributing to financial inefficiency in the universities according to new research carried out by two Bradford University economists.

Their results suggest that the UGC distributes recurrent grant according to a formula based on student enrolments. They conclude: "This is not consistent with the traditional picture of the members of the UGC carefully evaluating the different submissions and distributing government funds according to their evaluation of the merits and needs of the applicants."

The research, by Dr W. R. Cook and Dr J. E. Dunworth, will soon be published as part of a much larger analysis of economic efficiency in British universities. Their conclusions are based on a comparison of the way recurrent grant is distributed in Britain by the UGC and in Ontario, Canada, by the Ontario Committee of University Affairs (CUA).

The CUA was modelled on UGC lines and was set up as a buffer between the Ontario universities and the government. It distributes recurrent grant, however, according to a formula which depends on the student load in the major subject areas at each university.

Cook and Dunworth used Department of Education and Science statistics to relate recurrent grants to British universities with student enrolment, using the weights of the Ontario formula to determine student load. They say: "The results were astonishing. The actual distribution and the distribution calcu-

lated by the Ontario formula was virtually identical as shown in the table. The results mean that 97.8 per cent or more of the variation in recurrent grants to UK universities is explained by the Ontario formula in each of the five years for which figures were available.

Even between the colleges of London University the Ontario formula could explain at least 83.2 per cent of the variation.

To test the sensitivity of the weights we repeated the regression using other weights. We continued to get high correlations, but the weights of the Ontario formula were significantly better. This was not merely that student enrolment is the major factor in determining recurrent grants, but that the Ontario weighting of the various subject areas is better even than the weights suggested by the UGC for calculating student load.

They offer three explanations for their results: (i) The UGC uses the Ontario formula, but for its own reasons does not choose to admit that it does so; (ii) the committee itself is not aware of the formula, but its work is done by civil ser-

Academic year	Correlation between formula and actual enrolment	Coefficient of determination
1966/67	0.989	0.978
1967/68	0.991	0.982
1968/69	0.992	0.984
1969/70	0.992	0.984
1970/71	0.992	0.985

## 2 departments each have 12 staff and no students

by David Walker

A student reading education costs over 900 per cent more at Warwick University than at Keele University, and an agriculturalist at Reading can be taught for a third of the cost at Bristol or Oxford, according to new statistics from the University Grants Committee.

The latest volume of Statistics of Education, No 6: Universities reveals some striking anomalies in costs between different departments and the same departments in different universities. Each student in agriculture and forestry at Exeter University is ministered to, on paper, by at least one member of staff, at Bath and East Anglia 12 full time teaching and research staff cost for no students at all.

Differences in cost per student are marked in education and agriculture and in subjects like business studies where Sheffield and Loughborough offer courses costing about a quarter of those at, say, Durham University or the Manchester Business School.

But the pattern of diversity shown by the UGC figures—which apply to the academic year 1971-72—is matched by confirmation of the old adage that those that have, get more. Oxford and Cambridge got their first class degrees, on average, of 6 per cent above the national average, while more than 100 other universities got less than 5 per cent above the average.

A Cambridge student's chances of



MAINTAINING THE STUDENT BODY

getting a first class honours degree are nearly 400 per cent greater than at Leeds University. Over 20 per cent of Cambridge graduates get first class degrees, against nearly 9 per cent at Oxford and an average of 6 per cent elsewhere. Students at Loughborough get over £2,000, or about 17 per cent of its total income, Oxford 4 per cent.

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Isaac Newton



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## Play power

"The nuclear holocaust came on a bright summer Sunday and by noon over 500 million people were dead". Tim Albert reports Lancaster University's diplomatic game, page 7

## University economies

All but two sociology departments should be closed down and philosophy should cease to be an undergraduate subject, Professor Max Hammerton proposes, page 27

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## Gaps in general knowledge alarm researchers

by Sue Reid  
The results of general knowledge tests on students at University College, Swansea, were so disappointing that researchers think they raise fundamental questions about the nature of school and university education. The findings of a psychology research team at the university were published recently in the *Universities Quarterly*.

In 1973 geography students were asked on their ability to recall capitals of countries. This simple procedure provided evidence that knowledge which might be expected in any well educated individual was highly deficient, claims the Swansea research team.

Only 81 per cent of that group correctly named the capital of Czechoslovakia and only 75 per cent managed to name the capital of Belgium. The capitals of Sweden, Finland, Rindesia and New Zealand were named by less than 70 per cent and only one student could recall the capital of Syria.

A further test of geography students' knowledge took place last year followed by a more general study of the knowledge of undergraduates earlier this year.

Geography and psychology students were tested individually on their knowledge of political and musical figures, authors, poets and miscellaneous items of general knowledge.

The research team say the results caused some disquiet. About one third of the students of both groups had three or less correct out of 15 questions on political figures. Less than one student in four knew the name of the Minister of Education, for example, and only eight students of the 78 could recall the Secretary of State for Wales, a disappointing figure for a Welsh university.

A comparison of the two groups revealed a similarity in respect to political and general knowledge, although the psychology students were significantly better on the arts section.

Among wrong answers there were complaints by the research team as incredible: Charles de Gaulle is still the President of France and not William Whitelaw is the Prime Minister of Eire.

The researchers now ask whether this lack of knowledge is a satisfactory state of affairs among the few per cent of the population in terms of educational attainment. They claim schools and universities should accept some of the responsibility but students should reasonably be expected to inform themselves without specific instruction.

However, one good feature of the study, say the research team, was the number of students who, as a result of their ignorance being revealed, resolved to inform themselves better in the future.

Now, in a progress report, Mr H. D. Hughes, chairman of the resources agency set up to distribute the money four months ago, says the response has been magnificent even in the light of the national concern about the large number of adults with severe reading and writing difficulties.

Local education authorities have been given approval for important initial expenditure and it might be possible to be more generous to a number of them later in the year when final requests for money were known.

Projected expenditure was likely to total more than £55,000, and a reserve would be allocated before next March.

Mr Hughes, who is principal of Ruskin College, Oxford, predicts the money will have a crucial effect on literacy. He sees the programme as the most exciting initiative in basic adult education for many years.

Mr Bill Devereux, director of the agency, underlined the importance of tutor training and said 42 per cent of the money would be spent in this field. Volunteers had come from every walk of life and although there was a serious shortage of trainers, 5,000 volunteers were already being taught to teach with the help of special kits. The agency would be pleased if 10,000 volunteers were trained by the end of the year.

He estimated that nearly one quarter of the money would be spent on audio-visual and technical equipment although the agency had been asked to spend as much as £10,000 on equipment for the agency to use.

The organizers of the one-day conference, held at the Kingsway Institute of Further Education, hoped to provide some kind of answer to Professor Eggleston in the papers they had chosen, many of which were analyses of the policy adopted by government and local authorities on further education.

The development of the theory was not neglected. Mr Les Brook, a teacher at Brooklands Technical College and a prominent member of the Association of Teachers in Technical Institutions, described the beginnings of a Marxist sociology of further education.

The report, appearing only 11 months after the council's inauguration, proposed a system of dual-purpose awards with national and international recognition. The proposals will be given a six-month trial before BEC starts its final blueprint due for publication early next year.

BEC chief officer, Mr John Sellers, said: "The aim is to establish a greater breadth of business education at a sub-degree level by giving students fundamental knowledge aimed at meeting employment requirements within the whole spectrum of business. This will facilitate easy transfer from one occupation to another in this changing field."

BEC hopes to market the five-course in a three-level programme structure. In 600 polytechnics and colleges throughout Britain, it wants to encourage the colleges to initiate their own course framework.

The council wants to give colleges a "freeway" in formulating independent structures compatible with regional employment trends, but also demand a broader outlook beyond the local business needs.

To meet the wide range of ability of entrants the council recommends three levels of award. First, two lower levels of certificates and diplomas which will be roughly equivalent to the present certificate and diploma stages of the present ONC/D business studies course.

BEA's third level to a higher diploma stage is intended to be similar to the present HNC/D business studies course.

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The crisis of the problem was that employers wanted employees to be adequately trained while teachers at polytechnics wanted to give students a full education.

Some years ago the IIP introduced the Professional Qualification Examination, a three-year course whose title had been raised by the institute's lecturers.

It had been found that graduates of the course were too well educated and often lacked the appropriate skills to move happily into vocations in photography.

"We were therefore reluctantly forced to introduce what we euphemistically call a vocational scheme, with a more rigid and technical syllabus than PQE," Mr Weighray said.

Mr Weighray called for a nationally recognized graphic education which encompassed a variety of courses now offered, from the printing and publishing industry Training Board at the bottom end of the scale to membership of societies like SIAD at the top end.

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## 92 l.e.a.s chase literacy drive funds

More than 75 per cent of the local education authorities in Britain have asked for a share of the £1m set aside by the Government to combat adult illiteracy and almost 5,000 volunteers are training to become specialised teachers, says the Adult Literacy Resource Agency.

Tn date 92 authorities out of the 116 in England, Wales and Scotland have applied for money and received a total of more than £500,000. Voluntary organizations have been given £40,000 and £30,000 has been earmarked for special projects.

Now, in a progress report, Mr H. D. Hughes, chairman of the resources agency set up to distribute the money four months ago, says the response has been magnificent even in the light of the national concern about the large number of adults with severe reading and writing difficulties.

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## Overgrown schoolboy professor jibe starts ding-don row

In a strongly worded article in the *June New Review*, Mr Peter Conrad, a tutor in English at Christ Church, Oxford, has attacked Dr John Carey for his description of dons as "overgrown schoolboy professors likely to acquire a high opinion of their own abilities".

Mr Conrad writes: "The radical antics of students brought our universities into disrepute in the first place... now it appears that society has chosen to revenge itself on the universities by downgrading the academic profession."

He accuses Dr Carey, also a tutor in English and a fellow of St John's College, Oxford, of being a "creator of clericalism" and of "injuring the academics' pay claim."

In the January issue of the magazine Dr Carey had complained that Hugh Lloyd Jones, a regius professor of Greek at Oxford, had "no inkling that, as against a minor or a minor writer, a minor or a minor writer to the community was of uncommonly little consequence."

He also criticized dons for signing letters in the press, condemning foreign governments for their treatment of minorities. "A don is about as well placed to start clamouring for liberty as a budgeter," he said.

Mr Conrad replies that academics are mostly anti-materialistic creatures, well equipped for the role of "nouveau riche" since they have never seen much store by the accumulation of possessions.

"The goring and stinging snobs of Dr Carey's article, with the bray of asses and the chirp of budgeters, are monstrous hybrids from the satirist's imagination and do not correspond to the truth."

"The extreme reluctance with which some dons prepared themselves psychologically for withholding examination results, and their relief when abstraction made this unnecessary, contrasts with the intent on canvassing. I would obviously have chosen a different cross-section of people."

The triumph which debarred her from office was shared by Miss Caroline Lewis, a barrister and former librarian of the society, sitting with Mr Peter Hayward, of Nuffield College and Mr Sinclair Lewis, a Balliol postgraduate.

Mr David Thomas, classics postgraduate who is representing Miss Dingham, argues that the allegations were not handed in to the proper person, that they were handed in too late, and that the tribunal was biased. Only evidence relating to this first argument was heard on Monday.

Mr David Soskin, who is being represented by Miss Ruth Stanley, a law finalist from St Hugh's, said recently: "The tribunal was legally constituted, unanimous in its verdict, and cleared by a barrister."

One of the members, Mr Lewis, has been away from Balliol for two years doing research. These were the last three oral candidates, after which two came. If I had been

## BEC scheme gets mixed reception

The Business Education Council's first consultative document on its proposed award scheme got a mixed reception at a City of London Polytechnic conference hosted by the Business Education Teacher Association last week.

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## DES considers cut of one third in student teachers

A reduction of nearly a third in the number of student teachers entering colleges of education in 1976 has been proposed by the Government to combat the danger of rising unemployment in the teaching profession.

A private discussion paper has been circulated in members of the Advisory Committee for the Supply and Training of Teachers. The Government's chief advisory committee on teacher numbers, which proposes to accelerate the reduction of teacher training places between now and 1981.

Students entering colleges would be reduced from 29,000 this September to 20,000 in 1976. Under previous plans these would have fallen to 23,000 in 1976 and to 17,000 in 1977.

The Government has indicated that if the numbers were kept at 23,000 in 1976, full employment could not be guaranteed to students entering college next year.

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## Annan denies 'ulterior motive' in PNL letter

by Tim Albert  
The origins and timing of the flurry of correspondence in *The Times* over the Polytechnic of North London seems to have baffled most people there this week.

Lord Annan, whose letter (printed in *The Times* and *The THES* last week) sparked off the correspondence and leader, declined to say where his information had come from.

But when told that many people at the polytechnic were wondering what had prompted him to write the letter, he said: "There was no ulterior motive, or anything like that."

"I can only say that I had to do this, that it was my duty. I got no pleasure out of it at all. But is this place going to be run on the basis of whenever anything happens which certain people don't like the whole place is disrupted? Or is it going to be a place where academic standards, procedures and conventions are allowed to continue. This is the politics of civility. That's what it's all about."

The director, Mr Terence Miller, was not commenting on the matter, nor were a number of governors. Nevertheless some staff, students and governors were putting forward privately a number of theories.

One was that the timing of the letter was intended to stimulate support for Mr Miller during the ongoing investigation of the director by six governors. This follows two incidents when the director privately dissented from two official committee decisions, and is aimed at trying to prevent a recurrence.

The report is being drawn up by a sub-committee of governors, and could be ready within a matter of weeks.

A second theory was that it is part of a general attempt to gather support for Mr Miller, and thus its timing was based on the fact that term at the college had already ended, making organized protest very difficult.

A third theory is that the letter was inspired by Mr Bryon Roberts, editor of the *Standard Telegraph* and a former chairman of the governors of the polytechnic. But Mr Roberts said this week that that was totally untrue. "I knew nothing about it until I saw it in *The Times*", he said.

A fourth theory was that the letter was some part of a wider, rightwing reaction. Mr John Purton, one of the staff representatives on the court of governors, said: "It is not insignificant that this is a time of political crisis."

The rather shrill tones of the original letter reminds one of what hunting, which has gone on in the past in times of political crisis."

In his letter, Lord Annan called affairs at the polytechnic "a public scandal" and strongly defended Mr Miller. Letters of support followed from Professor Judith Gould, and two from three teachers of the polytechnic who are at present gathering information for a proposed book on what they call the sad history of the polytechnic.

Letters of protest have come from the students union at the polytechnic, Mr Charles Clarke, president of the National Union of Students, Professor Donald McRae of the London School of Economics, and Mr P. G. New of the polytechnic's school of librarianship.

Mr John Diamond, the former vice-chairman, has been elected acting-chairman of the polytechnic's governors following the resignation of Dr Walter Ross.

## Court reform offers students better representation

Edinburgh University this week took the first formal steps towards a reform of its governing body, the court, which will provide students with three places but will remove the rector from the chairmanship.

The court approved a draft ordinance which now has to go to the general council and the senate for observations, and has to be displayed publicly within the university for eight weeks.

Thereafter it will come back to the court, probably in November, and then to the Privy Council, the procedure necessary under the Universities (Scotland) Act.

Before the court meeting Sir Hugh Robson, principal, said the proposed changes were a major step towards the democratization of the university's governing body, and in terms of student and non-academic staff representation put Edinburgh ahead of other British universities.

He thought the Privy Council might regard the proposed student representation (three persons on a court of 21 or 22) as too large. In England this furthered the Privy Council and gave ways to approve constitutionalising students three or four representatives on councils of about 50.

He thought giving students three direct places was preferable to the present situation in which students had obtained representation by electing a student as rector, and he in turn appointed a student as his assessor.

This was a clumsy way of doing it, and did not give full recognition—as the draft ordinance did—to the need for student representation.

The court, he said, should elect its own chairman—who ought ideally to be a lay person, not in any way associated with or involved in any sector of the university. He personally would not wish the chairmanship.

With the rector in the chair, though he acted with commendable technical competence, business had had to be done in a strange atmosphere.

Later the court decided to delete from the explanatory memorandum attached to the draft ordinance a clause saying the exercise of the office of chairman by a student had not proved conducive to impartial chairmanship or the general efficiency of the court.—TESS.

'Breakthrough' for AUT in Cambridge decision  
Cambridge University has agreed to up to aid victims of censorship at home and abroad and to establish a library and information service on freedom of speech and writing.

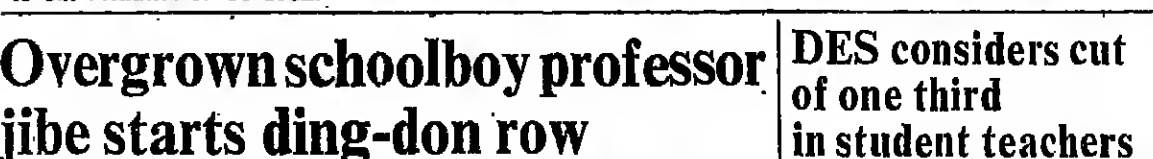
The agreement follows six months of discussions. Mr John Akker, AUT assistant general secretary, said: "It is a significant achievement for the association. Membership at Cambridge was now around 700, about 30 per cent."

The association and the university will be setting up joint consultative machinery to look at various local problems.

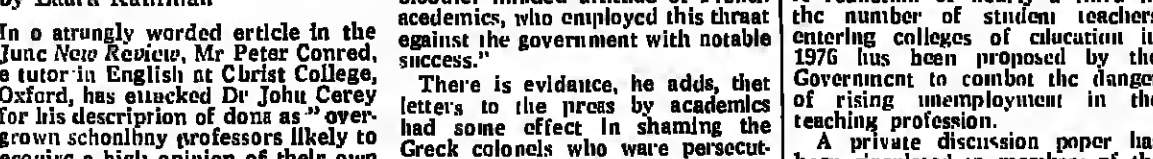
Mr R. E. Macpherson, Cambridge University's registrar, said there had been no reluctance to take part in the recognition of human rights, freedom of speech and expression.

Plans to supply books and information to universities and colleges were dependent on getting about £42,000 a year, which he called a modest sum for the preservation of the most important of human rights, freedom of speech and expression.

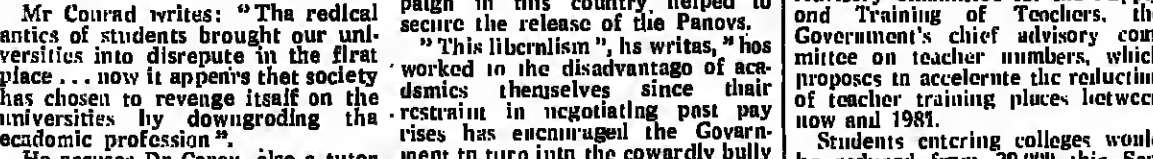
The ridged slabs of this recently opened student residence development at the University of Manchester have earned the buildings the nickname "Toblerone". Whether they are appealing enough to eat remains to be seen.



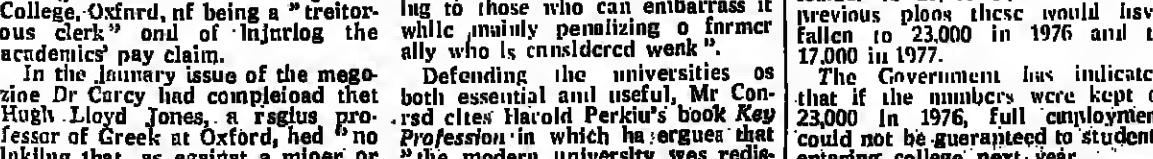
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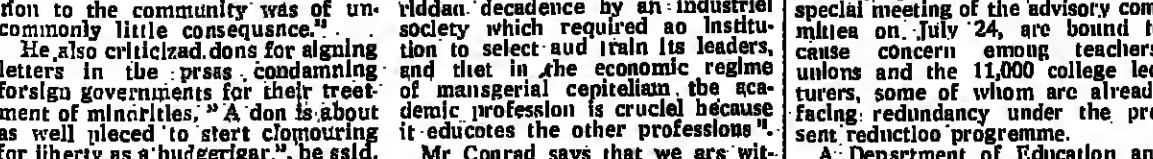
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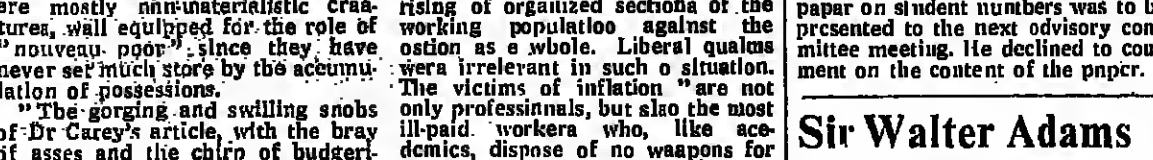
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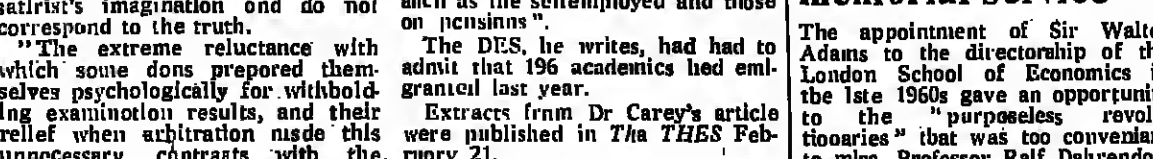
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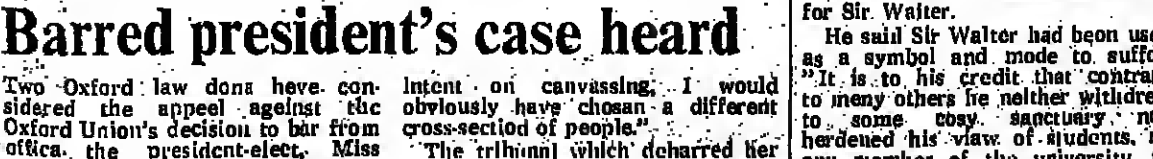
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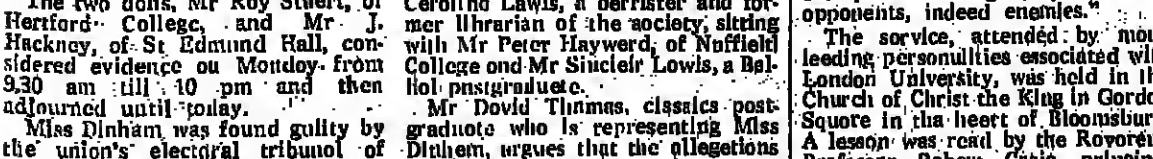
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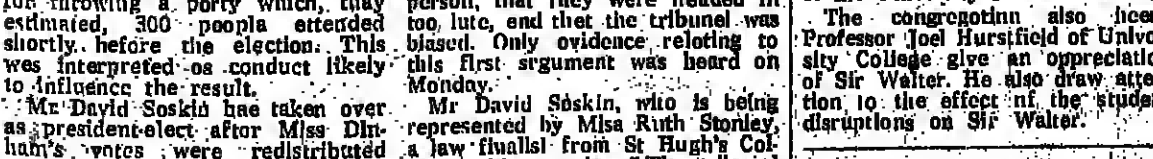
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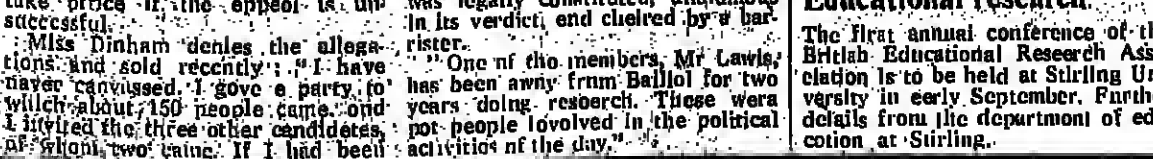
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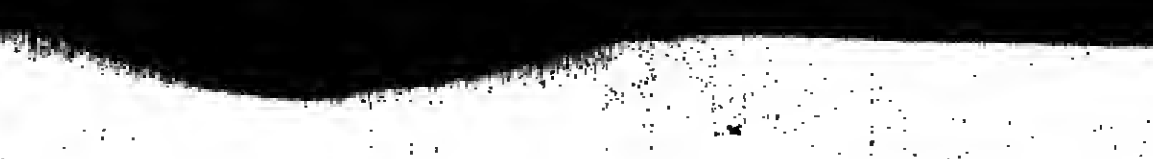
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# Oxford research hit by funds redistribution

by Alan Cane

Essential research equipment, including superconducting magnets and electron microscopes, have been closed down at Oxford University because the money to run and maintain them was needed elsewhere, a Commons select committee was told last week.

Professor J. H. Burnett, vice-chairman of the Oxford General Board of the Faculties, told the Select Committee on Science and Technology that research in every department had suffered a reduction in income. The university had used up to 15 per cent less electrical energy in the past year.

The select committee visited the university to hear evidence from a panel of university witnesses which included Professor Sir Denis Wilkins, Professor Sir Peter Hirsch and Dr R. C. Richards, Warden of Merton College.

In a written submission, the university warned that there was considerable alarm over job prospects for junior academics and for research workers outside universities. The university suggested that much of the uncertainty could be removed if the research councils were to turn to the "programme grant" system of sponsorship pioneered by the Medical Research Council where support is given initially for five years, renewable for a further five-year period. "Involvement in providing stability for research teams and to assist departments in long term planning, they are especially to be commended to the other research councils," the university said.

It went on to say: "Programme grants and special fellowships

would reduce concern in departments which find that research income is depressed by the enforced resort to short term planning. They would also ensure that a generation of research workers is not lost to the nation and, if demand outside the universities increases, a cadre of trained researchers will be available."

The university suggested that the best solution to the problem of funding research-based departments in financially difficult times would be a rolling quinquennium.

"Such an annual system would also permit a closer partnership between the university and the research councils and there could be close consultation in the drawing up of university and council estimates in respect of research activities in which they both have a large share."

While the university made clear that it was satisfied with the way the Advisory Board for the Research Councils had begun its work, it pointed out areas of uncertainty in the way the ABRC advises government and which it considers undesirable. It said it was not clear how government considers the recommendations of the ABRC and how it arrives at decisions about them; it wondered whether the ABRC is the only channel of advice to government on science policy; and it queried the role of the chief scientific adviser. It said: "These observations are not criticisms so much as indications of areas of ignorance which, nevertheless, in the long run affect the activities of every scientist in the country. In a democracy it is to be expected that such knowledge would be available."

## Employers still like graduates

Less than 2 per cent of students graduating from the University of Surrey in 1974 were unemployed at the end of the year, a report by the university's careers advisory service has shown. Figures released reveal that of the 553 graduates only six were unemployed six months later.

The report says that at least 63 per cent of Surrey graduates last year had found suitable employment within six months of leaving the university. Others entered specialized training, continued academic study or took temporary jobs.

An increasing number of graduates—21 per cent of the 351 entering employment—went into accountancy, banking, insurance and other commercial sectors. There was an increased demand for science graduates in commercial fields.

The University of Sheffield's careers advisory service noted the same demand from manufacturing and commercial sectors during the year. Employment interviewing activity at the university's careers office in the spring and the total number of interviews rose by 27 per cent.

A report by the advisory service said that while more Sheffield students entered industry and commerce there was a noticeable fall in the percentage of both arts and science graduates choosing teacher training.

It added that this year, despite inflation, the overall employment situation had remained buoyant.

## Old files 'can aid research'

Records held by government, schools, hospitals and businesses could be more fruitfully used for research, according to a new report from the Social Science Research Council.

The report of an SSRC committee, set up to investigate "longitudinal studies" of what happens to an individual or group over a period of time, said administrative records could produce much new information.

It added that there was a need for this type of longitudinal research into the socialization of the young in the contemporary, the effect of changes in the law or in education.

The report evaluated this kind of research as against "cross-sectional studies" and concluded that SSRC should encourage research to look at all requests for research funds involving longitudinal methods.

The SSRC committee, including Professor Hilde Himmelstein, the psychology, and Professor G. G. V. Jones, the social scientist, and chaired by Professor Fred Martin of Glasgow University, was set up because of the special problems of the research posed in the National Child Development study looking at the progress of children from birth through childhood.

"Longitudinal Studies," a report of an SSRC working party, Sop.



A farmhouse is a farmhouse is a sports club. The old farm, above, has been transformed into the modern clubhouse, below, for the sports and social club of the University College of Wales, Aberystwyth. In the process it has acquired a European Heritage Year Award. The official opening was on Wednesday.



## Academics will be working class, says Marxist

The living standard of academics has declined in recent years such that they will come to identify their interests with the working class, according to a writer in the Communist Party Journal *Marxism Today*.

Mr Martin Jacques, a former research student at Cambridge University, was not certain that academics would become what he called a progressive social force. Many were older and stashed to the establishment.

He said: "It should be noted that one of the problems facing the left in the universities at the present time is the fact that with the universities either expanding very slowly or actually contracting the intake of what might be described as post-1968 recruits (i.e. students radicalized in the late 1960s) to the profession has been relatively small."

Nevertheless the drop in academics income was forcing them to take collective action and though their work was highly individualistic they had successfully come together for a strike organized by the Association of University Teachers.

Mr Jacques traced the development of higher education in the universities and also in the polytechnics which the state created to produce a large volume of skilled labour for the economy.

In the late 1960s the state, he said, reassessed its attitude towards the

universities which through some kind of "premature" decision made in the Robbins report had been allowed to expand while retaining their traditional form.

"Over the last two years, however, the state has begun to subject the university sector to much greater pressure which, though taking a largely financial form, seems designed to effect major changes in the nature of the sector."

Mr Jacques spoke of a "historical disjunction" between the nature of the liberal traditional university and the educational needs of "monopoly capitalism."

It is clear that the state has over the period since the mid-1960s come to recognize that disjunction and it is now seeking to resolve it on the basis of a binary system of higher education consisting of an expanded technocratic polytechnic sector on the one hand and a "smaller, more traditional" university sector on the other.

He went on to trace the strategy academics should pursue. Communist should defend the traditional virtues of the university against encroachment by the state and economy while at the same time working towards a new conception of the university. It should be made relevant to the needs of the working class by, for instance, a new and essentially equal relationship between universities and polytechnics.

## Disorderly AUT

The Association of University Teachers' threat to withhold examination results was comparable to the disorderly behaviour of students, according to Lord Robbins, Chancellor of Stirling University. He told the university's graduation day audience last week that teachers had an obligation to their students as bad as that of the Hippocratic oath of medical doctors.

## Drama award

A film award at the New University of Ulster has rewarded a North Belfast student for his work in teaching drama through practical exercises and productions. The money, to be spent on capital equipment and work in local schools, is expected to stimulate the activities of the university theatre, due to open in six months time.

## College job selection tests 'waste of time'

by Sue Reid

Ten shortlisted candidates applying for the post of head of engineering at Harrow College of Technology and Art were asked to complete a series of management exercises as well as taking part in a formal interview. Now one of the applicants has questioned the motives behind this procedure which he claims cost time and public money.

The candidate, Dr Jack Howard, of the University of Aston, says the day-long selection process might well have been completed as successfully through a normal interview and the extensive use of references. For, he adds, the applicants were all highly experienced and in such an evenly matched field there was not much to be gained by the management tests.

The exercises were split into three distinct parts over the morning of the interview day. In the first all candidates were taken into a room and given a large envelope containing 13 assorted letters, memoranda, or messages which might appear in a head of department's diary. They were asked to decide on the action required in as many of the documents as possible in about 30 minutes.

The second test required each applicant to choose a different topic, introduce it to the other candidates and act as chairman while it was discussed. He was expected to end the discussion and sum up within a time limit.

For the third exercise candidates appeared before a panel to make a five minute personal statement on his views and approach to the job, if appointed. In the afternoon five named applicants, including Dr Howard, were then asked to stay for a formal interview which took the usual form.

But Dr Howard, who did not get the job, says: "One wonders whose idea it was for highly rated public servants to be interviewed by a group of unqualified persons in a room to spend their professional time and public money on subjecting a large number of highly qualified, experienced professionals to this kind of charade."

"They are deceiving themselves if they think their method gives them the man they want or helps them make a wiser choice. It is an extremely expensive process and I don't think the results are much better," he alleges.

He stresses the candidate chosen was an excellent man for the job, but adds he was not the only applicant to question the method of interview.

Harrow College of Technology and Art has defended their choice of interview process. Mr Holley Ancombe, the principal, said: "We have found this method has helped to identify some qualities in candidates which might not become apparent by other means of interview. We are aware of the 'insider' in the formal interview procedure and are attempting a more adequate procedure."

He claimed it was better to stage the management exercises than to use the alternative method of slitting the candidate in front of a committee. Anyone who complained about the system would be well advised to see if they could think of a better one.

Mr Ancombe said that the college, with one exception, had used the method to select heads of department. He added that when salaries of £10,000 a year were being paid to academics in top posts an overall investment in a man of £100,000 plus could be paid in just 10 years. This, he said, was a very good investment.

Mr Roy Hulbert, vice-principal of the college, integrated the selection procedure at Harrow. He said the first management test was aimed at discovering a candidate's speed, accuracy and judgment in administrative procedures. The second exercise tested the subject's knowledge, initiative, decisiveness, and leadership qualities of applicants while the third was aimed at assessing his interests in the job and its requirements.

Mr Hulbert pointed out that the college was not advocating the method as perfect, but it did claim to cut down the risk of expensive mistakes.

# Don's diary

## Monday

Up, up and away in a beautiful DC10. Ten seats to a row, and we are in the middle bank with no view of the weather outside. I have joined the international higher education "jet set", and am on my way to a summer institute in New York on "The Contemporary European University: Mass Higher Education and the Elitist Tradition".

The City University of New York is the pioneer of open admissions—no entrance qualifications whatever—and may be presumed to know something about mass higher education and its effect on elitism. Now it wants to know what is happening to excellence in scholarship in Europe under the impact of expansion.

But, you will say, the City of New York is bankrupt, and has only been rescued from financial collapse by "Big Mac", New York State's Municipal Aid Commission. How can they run international conferences and pay air fares from Europe? Well, CUNY has a research foundation which still has friends, including the Salzburg Seminar and the CUNY graduate centre with its food and air conditioning can do so well. So this is the first of a series of summer institutes on a variety of topics—the next one is on the New Deal 40 years on—and they have asked a German, a Swede, an Englishman and three Americans to give the papers.

Sitting in the DC10 sipping a free rum and coke I feel a fraud. How does a mere social historian come to be invited to assess British higher education? Well, I made the mistake of writing a book on the universities and it has brought me to more international conferences than ever English social history could. Foreigners take me for an "expert", and who am I to disagree with them? Not that I do the full round of the internationalist world of higher education, where everyone knows everyone else and what they are going to say, but as an occasional intruder I have the advantage of being a moderately fresh face and perhaps of saying something new by accident.

After dinner the stewards discuss as well university teachers are to be well and truly clobbered. We have incurred the double penalty of an unusually late start and a change of the social contract this evening, followed by a wages freeze caused by the failure to apply the social contract equally strictly elsewhere. We have become a special case.

Least non-academic readers remain sceptical, considering the position of the social contract in the world of the salary scale. Lecturer aged 30, with six years' teaching experience, a PhD and a book or its equivalent of published research currently earns £2,931, which is a good £1,000 below what he or she could earn in industry, the civil service or local government. It is also below that of polytechnic lecturers, as is well known, and of school teachers holding degrees—which is less well known. Owning a house, at least in London and the south east, has become impossible, and for those whose first appointments began late, with young children and thus a non-earning wife, the position is intolerable. At the same time the end of university growth after rapid expansion has filled senior posts with young immovable incumbents, cut off the flow of senior vacancies, and thus made promotion prospects (and leaps up the lecturer scale) as poor as at any time since the 1960s. It is tempting to predict dire academic consequences in terms of a massive brain drain to foreign universities or other employment at home. In fact this will probably not happen, if only because the financial position of universities in North America is little better, and the Commonwealth no longer needs or wants to import its imprudent, other jobs at home, but most of the suitable alternative employment is in the public sector which will be hit hard by the freeze. And despite much browbeating in the common rooms and lecture halls, the

change. No Grandes Ecoles, but immensely long degree courses for a privileged middle class, dominated by "bureaux", elderly professors of immense power and influence, teaching very little, examining chiefly orally and spending most of their time filling government posts and committees up to the level of the Cabinet.

Since the 1960s uncontrolled expansion has led to the breakdown of the old oligarchic system, endless student strikes, against the apparently overcrowded conditions, rebellion by the junior staff against the power and privileges of the "berons", and general criticism of the universities by the public, especially the trade unions.

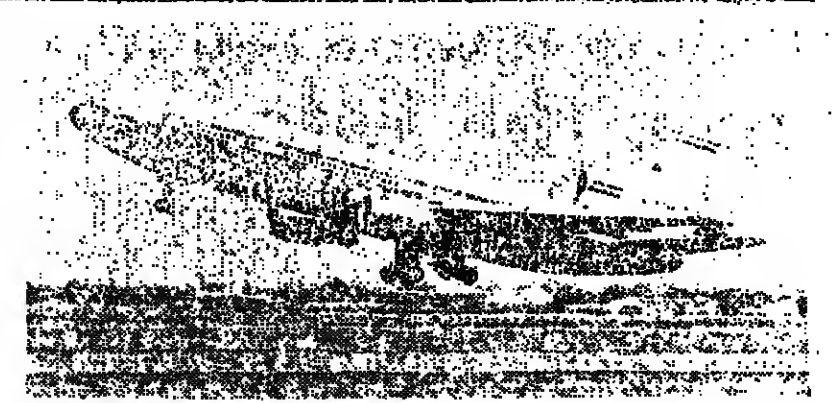
## Wednesday

Now it is the turn of the natives. Ulrich Teichler, a young sociologist at the Max Planck Institute in West Berlin, shows how the German universities have resisted change in their fundamental principles of freedom of teaching and science-based research.

The proportion of working-class students has risen minimally, from 4 per cent in 1957 to 12 per cent in 1973. Paradoxically, the group most wedded to elitism are the left-wing radicals. The new participation in tertiary education has led to left-wing majorities in many universities, but not to democratization because the left wingers are so academically conservative and elitist as the right.

The Swedish universities, according to Rune Porson of Lund University, are in retreat from mass higher education, or at least are hoping to seek it by a different route. Having experienced one of the fastest expansions in student numbers, from 15,000 in 1950 to 125,000 in 1970, they have now seen their annual intake of ordinary 18 to 20 year-olds cut by two thirds, from 25,000 in 1970 to perhaps 7,500 in 1975. They still have about 15,000 entrants a year, but half of these are mature students of 25 plus and with at least five years' employment experience. Mass tertiary education has proved to be incompatible with the survival of traditional elitist education, and many traditional students have "voiced with their feet" rather than with their time on it.

Martin Trow had been drafted to do the comparative summary of the conference but, en route to another "jet set" conference, had to give up the penultimate afternoon. Could excellence survive anywhere under mass higher education, he asked? If so, what kind of struc-



Learning to live in the academic jet set.

tures should it inhabit? Was it feasible or desirable to turn Oxbridge or the Grandes Ecoles into postgraduate institutions? Britain was trying to approach mass higher education with elitist staff-student ratios of 2:1 or better. How could one country, let alone Britain, afford such luxury.

Why not concentrate some of the resources currently devoted to turning the polytechnics into yet more middle class institutions on to encouraging the part-timers to become full-timers, at the least for the later part of their education? Why not give them grants, for fees, books and fares, provide a modular course credit system which will entitle them to transfer to part of the university and polytechnic degree courses, and guarantee their support as and when they are ready to transfer to full-time study? Britain is 'afroady at the level of part-time mass higher education. We could achieve both equality and equality of opportunity, and perhaps solve some of our economic problems, by capitalizing on our part-timers.

The conference rapporteur, Martin Eger of CUNY, is pessimistic about the prospects for higher education in the United States. Look at what is happening in the high schools, drugs and violence. What can we do to ensure that when they reach the university? His colleague, Henry Wasser, the conference organizer, is more optimistic. Catering for excellence and equality in the current political, social and economic climate is going to be tough, but it is a challenge worth meeting. What else is there to do?

My turn has come at last. My theme is somewhat different, less continental and theoretical, more British and pragmatic. Demerol is not a magic access to higher education for the underprivileged, notably the working class but not excluding women and immigrants. How far has expansion and the transition towards mass higher education, now delayed but not wholly abandoned, evolved opportunities for the disadvantaged? Everyone is acutely aware that the universities, though more accessible to working class children than most countries in the west, are predominantly middle class institutions: only 28 per cent of their students are from the working class, which constitutes 64 per cent of the occupied population.

But most observers assume that the polytechnics and the Open University are substantially more democratic. This is not the case. The figures for the polytechnics are poor and scattered, but Pratt and Burgess show them to have a majority of middle class students and to be becoming more middle class daily. The Open University, despite its open admissions policy, has only a derisory 7.6 per cent of manual class students. What is to be done, to the face of social pressures which give every advantage to the middle class child and every disadvantage to the working class? One solution which has not been tried is to tap the enormous reservoir of working class ability in the part time students, who outnumber the full-

timers by 3.8 million to under 600,000.

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## Friday

We take the train to New Haven to see our old friend and eminent historian Jack Hexter. There he is, as full of fun and scholarship as ever. What an antidote to pessimism! In spite of everything, excellence, like murder, will out. It's a good thought to come home with.

Harold Perkin

The author is professor of social history at Lancaster University.

## A status way to avoid a clobbering



IVOR CREWE

This column is being written less than 24 hours after the sudden yet predictable announcement of the 10 per cent voluntary wage policy, and until the White Paper appears it is unclear how the current Association of University Teachers' claim will be affected. At best the 23 per cent arbitration award will be honoured and the cost of living supplement will simply be reduced from 25 per cent to 10 per cent, which, as all credit to the AUT negotiators' gull in dividing the pay claim into two bits. But a mere 10 per cent is just as likely. There are other imperiousnesses such as the flexibility of the "special case" clause, which the Government has strength of resolve. By the best guess must be that the policy will brook few exceptions and will be stubbornly applied, if only because all other alternatives have failed or are even worse.

As well university teachers are to be well and truly clobbered. We have incurred the double penalty of an unusually late start and a change of the social contract this evening, followed by a wages freeze caused by the failure to apply the social contract equally strictly elsewhere. We have become a special case.

Least non-academic readers remain sceptical, considering the position of the social contract in the world of the salary scale. Lecturer aged 30, with six years' teaching experience, a PhD and a book or its equivalent of published research currently earns £2,931, which is a good £1,000 below what he or she could earn in industry, the civil service or local government. It is also below that of polytechnic lecturers, as is well known, and of school teachers holding degrees—which is less well known. Owning a house, at least in London and the south east, has become impossible, and for those whose first appointments began late, with young children and thus a non-earning wife, the position is intolerable. At the same time the end of university growth after rapid expansion has filled senior posts with young immovable incumbents, cut off the flow of senior vacancies, and thus made promotion prospects (and leaps up the lecturer scale) as poor as at any time since the 1960s. It is tempting to predict dire academic consequences in terms of a massive brain drain to foreign universities or other employment at home. In fact this will probably not happen, if only because the financial position of universities in North America is little better, and the Commonwealth no longer needs or wants to import its imprudent, other jobs at home, but most of the suitable alternative employment is in the public sector which will be hit hard by the freeze. And despite much browbeating in the common rooms and lecture halls, the

polytechnic only when I see it. The real impact will be less dramatic, but just as serious. Unemployment will change the social contract in two ways. There will, first, be a scramble for external examining, Open University tutoring, consultancy work, journalism, extra-mural lecturing and other paid second jobs. This will please the academics, a scheme guaranteed to demonstrate the profession and to discourage work, he could not have done better than the eventful rung entry level scale. Its replacement by a system of three grades (let us call them assistant lecturer, lecturer, and senior lecturer, retelling the present system) will deteriorate. Relative deprivation is not conducive to rationality or civility and since dons are not saints, we can expect the resentment and frustrations of low pay and blocked promotion to be channelled into personal jealousy and cynicism, fantasies, feuds of departmental behaviour.

What should the AUT do? Its immediate priority, out of regard for both basic justice and the future of the profession, is to secure the best deal possible for the lowest paid lecturers. The 10 per cent rise should be regarded as a lump sum to be then redistributed heavily in favour of junior staff, poor as at any time since the 1960s. The minimum salary for those aged 26 should be raised at least one rung.

Next, the AUT should launch a campaign to improve the ratio of senior to junior posts (about 3:8 in Britain, about 6:4 in North America). The official view of the lecturers' union is that the ratio bears no relationship to the needs or expectations of the vast majority of young university teachers, and is relatively lower down the income pyramid than the career grades in other public sector professions. The only plausible explanation ever offered to me for this anomaly is that the senior civil ser-

vice is more senior than the lecturers, think in terms of the rather different Oxford and Cambridge lectureships.

Thirdly, the AUT should seriously consider the abolition of the lecturership grade as presently constituted. Had a skilled practitioner of psychology warfare been asked to design a scheme guaranteed to demonstrate the profession and to discourage work, he could not have done better than the eventful rung entry level scale. Its replacement by a system of three grades (let us call them assistant lecturer, lecturer, and senior lecturer, retelling the present system) will deteriorate. Relative deprivation is not conducive to rationality or civility and since dons are not saints, we can expect the resentment and frustrations of low pay and blocked promotion to be channelled into personal jealousy and cynicism, fantasies, feuds of departmental behaviour.

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Frances Gibb reports a conference on access to continuing education

## Open the gates and help the grown-ups through

Lack of information, of entry qualifications and of secondary school education were three of the major barriers preventing adults from taking up chances to study, a national conference on "access to continuing education" heard last week.

A key need identified by several groups was for national and local counselling, guidance and information about continuing education for adults. Many adults did not come forward because they did not know what existed.

The media had an important role to play here. Broadcasting organisations were recommended to develop extensive "cross-casting" from general interest programmes to educational programmes. Booklets should be offered after certain programmes. A special management appointment should be made to oversee these developments.

The three-day conference in Oxford was organized by a committee containing representatives of the Open University, the national adult education bodies, the broadcasting authorities, the TUC and the educational press. Its chairman was Mr Paul Fordham, director of extra mural studies at Southampton University.

The 150 participants divided into working groups and discussed aspects of access to continuing education and its constraints: formal and non-formal qualifications, existing provision and barriers to it, resource management and cooperation, adult education as a preparation to adult education, the media, "non-participants" and curriculum development and methodology.

It was emphasized that education was often a barrier in itself, when "packaged" and "blatant", "education" and it was suggested that much more initiative use could be made of general interest radio and television programmes.

Mr Brian Groombridge, head of educational programme series for the Independent Broadcasting Authority, said: "In Great Britain, the quality of drama and documentary is such that it might be used to provide formal qualifications together with properly prepared back-up print material, distributed in outlets such as Family Circle."

It was also recommended that

educational broadcasters should be enabled to present a series of programmes at peak viewing times on either network, which would allow adult education programmes the benefit of a large audience. However, preventing the media from making full use of their role in education were identified, for broadcasting, as limited air time (increased radio capacity had brought improvements in access in adult education, it was pointed out), and copyright restrictions on the use of broadcast material "off air".

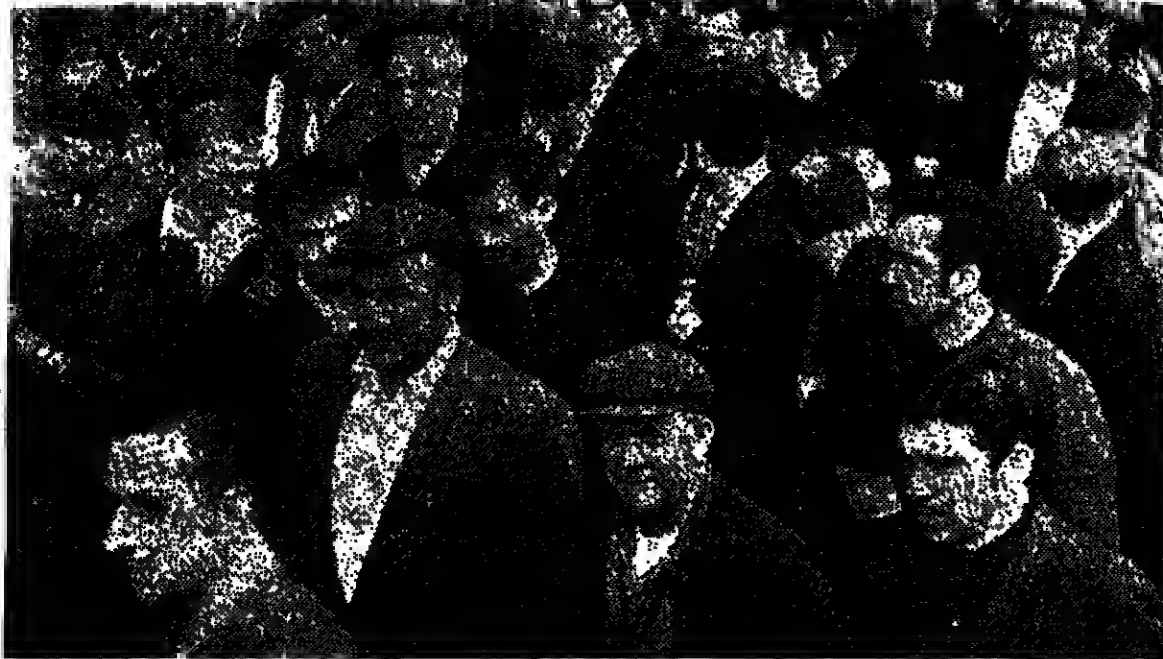
For printed material, barriers included poor distribution of books and the continuation of retail price maintenance in the book trade, especially for paperbacks. More imaginative discounts could be made.

Mr Donald Greeton, controller of educational broadcasting at the BBC, suggested an open network which would provide common ground in broadcasting as the OU had done in higher education. It would give more opportunities for adult education, training and re-training, projects of specialized interest, and for the undersaturation of the nature and effects of broadcasting and the media themselves.

A second major barrier to access that emerged was that many formal qualifications required for entry in many courses were often imposed by the professions. An inquiry into what was considered a trend towards higher entry qualifications in the trades and professions should be set up, it was recommended. It was felt trades and professions used qualifications as a way of rationing the availability of skills and enhancing their own status.

Mr Fred Flower, principal of Kingway/Princeton College of Further Education in London, suggested no one should be barred from any job because of a lack of previous educational achievements, but should be judged only on the basis of professional competence, and that no lower level educational qualifications should be permitted as entry requirements for a higher course. Much more value should be placed on non-formal qualifications and non-formal learning, such as community development projects. It was suggested.

The position of non-formal qualifications in Sweden was outlined by Mr Olof Palme, prime



Take adult education to the shop floor.

minister, in a videotaped interview with Dr A. H. Halsey, director of social and administrative studies at the University of Oxford.

Mr Palme explained that in Sweden 25-year-olds with four years of vocational experience are allowed to go to university. This had proved successful and university entrance requirements were being changed again to give more emphasis in practical experience, he said.

Where formal qualifications were used, they should be used more flexibly. The Russell report's recommendations on transferability of credits were supported, and a modular system agreed to be the best way of building up formal qualifications.

Qualifications were seen as part of the whole barrier to continuing education put up by school. Attitudes to education in later life were very much determined by earlier experiences, it was felt. "Non-participants", one group agreed, "have in fact rejected not so much the idea of education but rather the purposes which in their own view adult and further education serve, and the forms it takes."

It had to be reached not through the normal educational channels which had in their eyes been discredited, but through community interests. Mr Fordham emphasized when opening the conference that access to continuing education had to be seen in the context of wider social policies.

Dr Halsey showed in a videotaped interview with some former "non-participants" that their motives for

coming forward had not been "for a learning experience" but rather for "community involvement".

It was suggested that adult education should be taken to the shop floors, to working men's clubs, in pubs, churches and the home, and should not be confined to the conventional institutions.

A salutary note on this concern for the "non-participants" was added by Mr Stuart Moore, editor of *The Times Educational Supplement* when he warned against too much zeal in helping the disadvantaged at the expense of others.

"We need the real humdrum services of adult education for people who in fact want it, and that means humdrum professionalism: we'll have to give up thinking of professionalism as a dirty word."

More participation by adults in what was presently offered was suggested as another way of breaking down barriers. Professor Walter James, dean of educational studies at the OU, criticized the BBC and OU in this respect. "The partnership between them is one which is very limiting. It does admit the consumers."

The adult literacy campaign was equally at fault in not reaching students to learn how to read words they would want to use.

This concern with consumer demands formed part of a general debate which ran through the conference on the relation between what consumers wanted, and what society needed.

Dr Gösta Rahn, head of the Swedish Institute of Social Research at the Organization for Economic Cooperation and Development, argued

that the education system should be regarded as part of the labour market. The population of schools and universities is part of the labour market. Students react to a situation in the market, and decide whether to go in or stay out of education according to the situation in that market.

He urged the closer coordination of employment and education policies. If education opportunities were to be expanded, so should training opportunities. Adult education was an extension of the school system and the labour market.

Lord Crowther, Minister of State for higher education, took this point further in a videotaped interview with Dr Halsey, arguing that the case for manpower planning "We must find out in the longer term what the nation needs in the supply of highly qualified manpower, the sorts of manpower it needs, and try to direct and influence people to go in those directions."

He argued for the production of more scientists and technologists. Choices had to be made between different sectors because of economic constraints, he said. The 16-18 age group was for him a more important area than continuing education.

As summed up by one participant, the real problem lay not between students' demands and society's needs, but rather between what students wanted and what adult educationists were giving them.

A full report of the conference is to be published by the steering committee later this year.

David Walker visits the University of the West Indies

## British tradition faces up to a Third World critique

Until recently the only things that remained of the West Indies as a political federation were said to be coffee, cricket, and the University of the West Indies.

The university is a strange administrative feat comprising three campuses with a single administration separated by a distance as great as that between London and Moscow. It is financed by 14 different governments and is the epitome of British academic tradition in a region eager to throw off the last remnants of colonialism.

Now the coffee trading agreements have grown into a free trade area and the West Indian countries are exploring further avenues of common action. Paradoxically the UWI is now in danger from the forces of separatism and inter-island jealousy that broke up political federation.

Awareness of the limitations of the British educational heritage has grown slowly along with doubts about the suitability of a sophisticated English-style university for the needs of the Third World.

Such a critique has come in recent years from younger academics and intellectuals in Trinidad and from established politicians in Jamaica and it raises more than parochial issues: is the university a vestige of colonialism? how edifiable are universities in general to the changing demands of economy and society? The university is gradually and painfully attempting an answer.

At first glance the UWI is a traditional British university in an exotic setting; a kind of Reading surrounded by bougainvillea. Like Reading it is a former university college of London. University strong in agriculture with a central core of studies in general arts and sciences.

Teaching started in Jamaica in 1948 and the university grew more through "political accommodation" than academic planning into an institution with two other centres, in Trinidad and Barbados, after it was made independent by royal charter in 1962. Since then, the direct British connexion to terms of support in finance and staff has declined although the bulk of the UWI's top West Indian lecturers and researchers are British.

Most of the buildings to campus at Mona in the suburbs of Kingston, Jamaica—acclaimed as one of the most physically impressive of all in the British Commonwealth—are a tribute to British Government grants for new additions. Like the management studies buildings from Canada and for the creative arts building from the Cuban bank foundation.

The Trinidad campus is dominated by the old Imperial College of Tropical Agriculture which now houses the administration. Its work has been absorbed to the faculty of agriculture, notwithstanding the criticism of some members of staff that only the British Empire could have organized such an institute testing fruits and plants that did not and could not grow in the West Indies and ignoring local flora.

Paradoxically, the most vital sections of this university—the departments of education and arts and social work, which engage in serving the local community in the most direct way—conform very closely to their English counterparts. The outposts in the smaller islands are like nothing to match the Oxford system of 20 years ago, even allowing for the influence of the Open University. The relationship of the school of education in Jamaica and the local teachers' colleges is a variation on a theme first created by the McIntyre Report in 1944.

Also at the St Augustine campus in Trinidad are the engineering building, built with Unesco and Ford Foundation money, and the college of arts and sciences with money issued from a deal between the Trinidad Government and the Americans over an American military base at Chaguaramas.

If the physical structure of UWI is international, the academic organization is staunchly British with its administration and the length and scope of the degree courses. External examiners tend to be British although Americans and Africans are now more called upon.

There has been movement away from this pattern in some areas. Politicians in the Caribbean have insisted for over a decade on establishing a local examinations council that would place validation of school examinations at O and A levels in the administrative hands of local governments rather than the London and Cambridge local examination boards.

Paradoxically both these boards and Cambridge in particular—which have built up examinations in schools in Trinidad, Barbados and the lesser islands—have pushed devolution hard, turning themselves to new syllabuses to take account of local history and culture. But the Caribbean Examinations Council, it has emerged, is an additional educational expense for the various governments and is still fraught with political difficulties.

For example, the university authorities in Jamaica have been keen on schemes to open the university to both unqualified and O-level applicants, provided they pass university tests and show the right kind of motivation. Professor Leslie Robinson, provost-chancellor in Jamaica, produced figures recently which showed that the real drop-out rate among O-level entrants was no less and sometimes a good deal less than among straight A-level candidates.

The difficulty is that the Trinidadians, who are the other major contributors to the university's budget, have invested much in "secondary" education and produce many more A-level students per head than the other territories, so have something of a vested interest in the traditional two A-level matriculation requirement.

The nub of the matter was put by Mr Hugh Gibson, secretary of the St. Augustine campus. While UWI had moved with the American model of academic organization, it was still an "associate professors" and so on, the university still ran basically on the British model with modifications and there had been no real move away from it.

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## Home made holocausts show conflict's roots

The nuclear holocaust came sharply after 11 o'clock in the morning on a bright summer Sunday, and by noon over 500 million people were dead, it had come after a revolution in Africa, a conventional invasion by the United States (for reasons which nobody at the time clearly understood), a nuclear response by China, and a nuclear response by the United States.

Both countries lost over half their populations, and about a third of their resources. The USSR, in spite of (or because of?) her history of walking out of United Nations summit conferences, survived intact.

The scenario was fortunately limited to an ICL computer and 60 players of a simulation game at Lancaster University, and the student of politics who was the Russian Foreign Minister was able to eat an ice cream cone and explain what had happened. "We have just become the biggest nuclear power to the world," he said. "Some of us want world domination and some of us want friendly co-existence. I think the world domination game will win."

At a nearby table, the pretty bare-middled philosophy student who had been the old head of Africa explained that she was now the new head of Africa. "Public opinion had dropped very low. We had not been spending any money on foreign aid. So there was a revolution. But a much more serious one. The new People's Democratic Republic of Africa. Our position is much clearer now."

As for the President of the United States, he said that he thought declaring war was a fun thing to do. He was a young computer executive, far out of university, self-confessedly very right-wing, and had unashamedly bagged the job of being President because it was the most important. By the end of the first day his cabinet was entirely disaffected with his decisions, and at the end of the game on the second day he had been impeached and assassinated.

The game had been organized by Dr. Paul Smoker, reader in Peace and Conflict Studies at the University of Lancaster. It was built on his ten years of research into the subject, and the computer had been fed with data ranging from the likely return of research and development to theories of revolution. The players, who included businessmen, teachers, lecturers and students, were in effect giving the game a day and a night before it was starting a holocaust, were too busy balancing out books to care. I expect the real end will come like that.

But what I found disturbing was that we at GM had really been the unwitting cause of the war. It appears the President of the United States had assumed that revolution in Africa would have cut us off from vital resources and crippled us (which it wouldn't have done anyway). Nobody both sides of the war had seen the game as a day and a night before it was starting a holocaust, were too busy balancing out books to care. I expect the real end will come like that.

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Tim Albert

## Science research policy moves into politics

Two recent events appear to indicate that the study of national allocation of resources for scientific research—the field broadly referred to as science policy—may be moving from an area of essentially academic interest to one directly linked to the mechanisms of political decision-making.

The first was the recent announcement that the Social Science Research Council is to set up a committee under the chairmanship of Professor Ralf Dahrendorf, director of the London School of Economics, to look at the organization and funding of science policy research in Britain.

The second was last week's meeting of the ministers of science of member countries of the Organisation for Economic Cooperation and Development (OECD) in Paris, at which the growing political importance of such policy instruments was openly acknowledged. Both Professor Dahrendorf and the ministers of science see this importance in the context of medium and long-term planning, as an attempt to understand the complex implications of proposed political decisions.

Professor Dahrendorf's approach, however, has been essentially pragmatic—and, being so, will not doubt appeal to those members of the science sub-committee of the House of Commons Select Committee on Science and Technology who are concerned at the apparent gap between the allocation of research funds for science and nationally determined social policy.

The approach suggested by the ministers of science, on the other hand, can fairly be said to be at least in its bald, consensual form, to be one step removed from everyday reality.

One of the facts that the head of the science policy division in the OECD secretariat, M. Jean-Jacques Salomon, is not only a Frenchman, but also a philosophy graduate who holds a teaching post at the College de France, and who recently published book *Science and Politics*, contains as much an epistemology as it does on economics.

M. Salomon himself, however, is keen to stress that he sees science as essentially an instrument of society, hence both its insoluble connection with politics and its political importance of science policy.

There seems a general acceptance that science policy is a mechanism for the allocation of resources, and that this will have a mechanistic impact on science and technology. M. Salomon says, pointing to the declining proportions of the gross national product being spent on research and development in the major OECD countries.

"Science has in some ways become less important, having to take place alongside other social priorities, while it becomes less easy to allocate money for 'mobile' rather than clearly defined targets."

Science can no longer be justified on scientific grounds. Political administrators are more careful than they were about the allocation of research money, and almost all developed countries are concerned more with applied than with pure research. This shift has been reflected in the OECD where M. Salomon's division has been moved from a direct association with education into the new directorate of science, technology and industry.

Similarly, a series of studies of the science policies of member states—who between them are estimated to account for 80 per cent of the world's total research and develop-



Professor Ralf Dahrendorf

ment by studies of the social sciences policy of these countries.

"I think that the social sciences may well take over from the natural sciences in importance, and there is clearly a need for greater coordination between the two," M. Salomon says.

In particular, the naïve positivistic approach to problem solving, inherited from scientists, is being questioned, and nothing would be worse than to expect the same approach from the social sciences.

Given this situation, one echoed in Britain by the decision to set up a science policy committee within the Social Sciences, rather than the Science Research Council, what does the future for science?

One implication of this is that those concerned with science policy are in a weaker position than they have been, illustrated for example, by President Nixon's abolition of the Office of Science and Technology.

Where there has been a revival in interest in science, it has so far been on the basis of the need to meet relatively short-term problems, such as the recruitment of young research workers into the research establishment, he says.

M. Salomon sees the omologation of the science policy division with OECD's industry directorate and the increased interest in the social sciences, as a direct result of the needs of OECD member countries.

"What is requested more and more is a type of broad policy research. This will be one of the most important problems of the future, involving as it does the training and integration of people into the new system."

"I am thinking, for example, of the people with local or national administrative responsibility who are increasingly having to rely on the results of research, and for whom we can help to provide a framework of events within which they can make better decisions."

M. Salomon says that in the past Britain has appeared to rely on a relatively informal planning process, but adds that this is no longer adequate to meet the demands of the contemporary situation.

It is too easy, for Britain, to say that science is the prime responsibility of the universities and technology the responsibility of industry, leaving an apparent vacuum between the two.

Whether this vacuum can be filled is a question that the council for medium and long-term planning proposed by Professor Dahrendorf or by any other institutional rearrangement that may be suggested by the select committee as a result of its investigations into university research remains to be seen.



The creative arts centre, University of the West Indies.



# 'Computers in education are here to stay'

A few months ago, I visited the physics department of a large civic university. My host, on being asked how many computers there were in the department, thought for a moment and said he guessed between five and seven.

"Oh, and then there is that new chop up the corridor who's not four", he added. This incident, I am sure, sums up my feelings as to the half-way work of the National Development Programme in Computer Assisted Learning.

The story of the first two years of this five-year, £2m programme is told in my director's report *Two Years On*.

The report, in its final chapter, contains the assertion: "Computers in education are here to stay. Given the backing of those who see computing as a legitimate part of the modern curriculum (computer education, computer science), and of those whose subject disciplines are becoming increasingly indistinguishable from computing, and given the powerful interests of computer manufacturers who see education as a legitimate and largely untapped market, the rules and influence of computers in education are likely to spread steadily."

I began the programme with such feelings of "inevitability" in fact the opposite. An official from the Organisation for Economic Co-operation and Development whom I was with shortly after learning of my appointment as director, said: "You're on a hiding to nothing."

He thought, as I did at the time, that a national programme in computer assisted learning was positively to do with computerized programmed learning—the computer as teaching machine beloved of the followers of B. F. Skinner and his behaviourist disciples.

It was only after the programme began, in January, 1973, and after visits to, for example, the nuclear engineers at Queen Mary College, the physicists at the University of Surrey, the medical teachers at Glas-

gow University, that I came to realize that computer assisted learning (CAL) was a far broader notion, and that the natural result of the programme was much wider than programmed learning.

In fact, most of the people involved in this area in this country (not all) were, and are, much interested in developing the computer as a teaching machine. They see it more as an academic tool, as a learning resource, as a "laboratory" where the student can actively be involved in modelling, simulation and problem-solving.

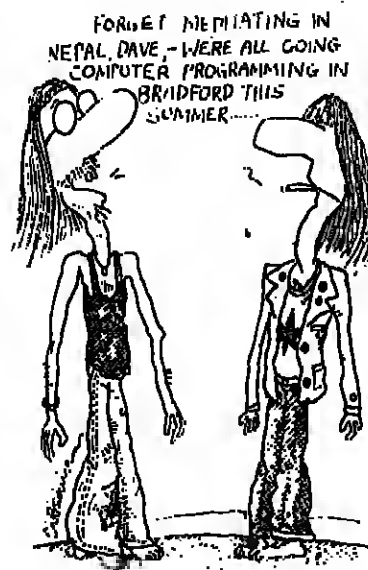
The analogy here is much more with the use of the traditional science laboratory, where there are demonstrators and teaching staff in attendance, than with the self-instructional, self-contained programmed text.

The computer in these "laboratory" applications is not entering courses designed to improve learning in an educational technology sense, but because the subject matter increasingly demands it. This is most obviously true of the numerically based disciplines (for example, mathematics, physics and engineering), but is increasingly true of the softer sciences (geography, economics, business studies) and the humanities (literature and social history).

The Social Science Research Council, for example, has just informed heads of university history departments about developments in quantitative methods and computer usage in history.

The national programme has projects which use the computer in a variety of ways. Of the nine large projects in higher and further education under way at the end of 1974 (smaller numbers of projects are also under way in schools, tertiary and industrial training), five use the computer in its "laboratory" role.

Two, both based at Leeds University, were using the computer as a mixture of laboratory and teaching machine, and one, based at the New



University of Ulster in Coleraine, Northern Ireland, was using the computer to manage (but not provide) individual learning in teacher education.

In all, by the end of 1974, £375,000 out of a budget of £235m (22m in 1972 prices) had been spent, and 17 projects were in progress. The entire higher education project involved committed sums of £368,000. This higher education projects are likely to have spent around £1m by the end of the programme.

The report on the programme's first two years identifies some novel features by comparison with the familiar research grant-giving policies in higher education. For example, in projects are funded for more than one or two years in the first instance, and further funds are only awarded after a successful "mid-term" evaluation.

Another difference is the active role of directorate staff in the design and selection of projects.

This is a major break with the grant-giving tradition, where central research council staff have a "ractive" rather than assertive role, and where so much of the project activity is done on the basis of the actual written proposals.

Yet it is often felt that good proposal writers are not necessarily good project directors, and that what is written may differ markedly from either what is in operation, or what is intended.

Other novel features of the programme include the emphasis on inter-institutional cooperation rather than single-institution funding, on the need for effective project management, and on independent evaluation.

Good project management is actively encouraged by the directorate. At an early stage, this caused problems with some of the university projects who felt it constituted unwarranted intrusion.

These problems have largely been resolved, but some projects still feel that the administrative demands of the programme's project control structure remain excessive.

Independent evaluation, coming from agencies outside the power structure of both projects and the programme directorate, was also seen to be threatening by some. Dr Peter Ayscough, director of the large chemistry project, states in the report that, in his opinion, the "evaluators have moved tactfully and firmly through the minefield of academic temperaments."

So where are we now? The higher education projects are busy preparing for the day not far away, when the national programme cash register is rung up for the last time.

At piece like Glasgow, Leeds and Surrey Universities, and in parts of the University of London, plans for a continuing CAL service are underway. CAL is busily being incorporated into, for example, questionnaire submissions and into

proposals for the Computer Board. In many places, a good base of local support from colleagues is being achieved. If this sounds like over-confidence, perhaps it is. But then this programme has been fortunate to find across the country groups of committed, enthusiastic, politically-adapted people.

Also this confidence has to do with the inevitability point I started on. Computing is not like other new educational technologies—television or audiovisual aids. Television is not really an academically respectable technology, computing is.

The analogy should be with the old (and academically respectable) medium: print. Print was invented and developed in close collaboration with educational institutions. The second hook off the Gutenberg press was the Donat gromer.

Computers were invented in universities to solve complex academic problems because of the shadow of military research needs, just as education today could not be imagined without print, or some parts of some academic disciplines becoming indistinguishably linked to computing.

The eleven or so computers in the university physics department were of course used 99 per cent for research and only 1 per cent for teaching undergraduates.

But we all know the law of academic percolation. When is a research application this year is the undergraduate curriculum next year, and probably in the A-level syllabus a year or two later.

*'Two Years On—The National Development Programme in Computer Assisted Learning. Report of the Director. Published by the Council for Educational Technology for the United Kingdom and distributed on its behalf by Councils and Educational Press Ltd., 10 Queen Anna Street, London W1M 9LD, price £1.25 net.*

# What's science to history, or history to science?

Why should ordinary, mainstream, historians study the history of science and technology? What is science to history? Such a question seems stupid. Who could possibly doubt the enormous role of science in intellectual history, political and social theory, in philosophical speculation, in the decline of religion, in the transformation of life via technology? Nobody. But you would not think so judging by the syllabuses of mainstream history in most British universities. At a recent meeting of historians of science from many universities it was clear that this subject has a far more precarious footing among undergraduates in history and the social sciences than among natural science students.

It is true that Renaissance and 17th century history are now inseparable without their scientific revolutions, just as economic history is inconceivable without the technological revolution.

However, all history undergraduates do not take economic history. When the mainstream history syllabus reaches the 19th and 20th centuries science slips away from it almost completely, even though this is the period when science began to have a profound impact on everyday life. I would guess that most history students who study British history from 1800 to 1939 graduate without ever having heard in their courses about Lyell, Faraday, Clerk-Maxwell, Kelvin, Rutherford or even possibly Darwin. This omission of one of the dominant forces of change in these centuries is intellectual impoverishment for the students and historical impoverishment for the profession.

The historians of science must themselves bear some responsibility for this state of affairs. Some of them have said that after 1800 science becomes too difficult, too mathematical, for non-scientists to understand, and that in future nobody will be able to become a historian of science without a science degree. Bizarrely, historians trained in the humanities and social sciences.

Such suggestions are dangerous and should not be offered as alibis to reluctant historians, for science can be studied in many areas, from many aspects and from different levels. Clearly non-mathematicians cannot read some of them, but they will find others perfectly accessible. It is certainly absurd to divide science into pre-1800 science which historians can tackle, and post-1800 which they must avoid. Is Newton inherently more comprehensible than his successors? Faraday after all had no formal education, worked as a messenger boy, and used no mathematics save simple arithmetic. "The sophistication of modern physics conceals the deep and often expressed conviction that the scientific method is essentially simple. Both felt that understanding could not be wrenched up in obscurity or be expressed only in highly technical jargon," as Mark Oliphant said in his *Rutherford*.

Of course it is difficult for a non-scientist to learn enough science to be a historian of science to handle all kinds of other subtle concepts and theories. Moreover, archaeology, once far out at one end of the humanist spectrum, is now dependent on the use of radioactive isotopes and other techniques of physics, yet students of ancient civilisations must learn without complaint. Many historians use computers. My own scientific education and scientific perspective were minimal but I find it easier to understand how a nuclear reactor works than to understand the finer points of theology or even superannuation schemes, and the scientists and engineers appear baffled with my history. This experience enables me to exhort history students or historians: "Be not afraid of science."

Scientific ideas are obviously an essential part of intellectual history which does not at present figure largely in undergraduate mainstream history courses. But science is also an essential part of the studies that form the very backbone of these courses—an essential part, that is, of politics. I gladly ally myself with the defence of the study of politics, which analyses how men govern themselves, how they distribute power and resources within a society and between societies, how they choose between different objectives and between different means to any single objective. Unfortunately political history is too often seen only in formal terms of institutions, diplomacy, laws, parties, over-happenings, the rise and fall of governments. It should be seen much more in terms of the activities and the changes within society which lie beneath the formal crust. We should not take subjects out of political history—but put their four-square into Education, economic policy and health care. Education, economic policy and health care are highly political questions. So are science and technology.

No self-respecting 17th century historian would not be a scientist. The scientific revolution, from political thought and activity. Yet 19th and 20th century mainstream historians omit science almost completely from their politics. Science is a quite indispensable part of 19th century history and equally, if not more so, of 20th century history. Isiah Berlin has said that the 19th century was the century of the 25th century one of the two outstanding features of the 20th century will be the development of pure and especially applied sciences.

Since we are now in the last quarter of the 20th century, should not the formal



'Without proper historical handling, the recent past becomes a vacuum'  
Margaret Gowing challenges the omission of science from the teaching of 19th and 20th century history, and the omission of history from the teaching of science

of the undergraduate modern history syllabus be changed? At present, at least one of the papers set in 1939. Most history students who study British history from 1800 to 1939 graduate without ever having heard in their courses about Lyell, Faraday, Clerk-Maxwell, Kelvin, Rutherford or even possibly Darwin. This omission of one of the dominant forces of change in these centuries is intellectual impoverishment for the students and historical impoverishment for the profession.

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teach are still staple history of science fare. Those scientists are too often treated as a race apart. The turmoil of history is lost.

Finally, philosophy has concentrated attention on one aspect of science, that is on so-called pure science. Until Thomas Kuhn introduced his normal puzzle-solving scientists—the people working in the periods between the major turning points in scientific theory—philosophers concentrated on the great ideas of the great scientists. To Karl Popper the very words normal science are indecent.

This particular philosophical view of science is most misleading. Kuhn talks only of pure science. Philosophers, many historians of science and some scientists think only in terms of two categories—pure science on the one hand and applied science, which is equated with technology, on the other hand. But this is a gross oversimplification, and again we have lost definitions in this supposedly precise domain of thought.

The identification of history of science with philosophy of science has, however, introduced a preoccupation with pure science; and pure science is assumed to be more by pure scientists in that a mythology of scientific progress has grown up. What other disciplines is described as pure except the kind of mathematics? We do not have pure art, pure music, pure history or pure economics. The myths and stereotypes present scientists as essentially rational, cerebral, rational and unworldly; if there are other sides in their lives, whether political, religious or moral, they are kept in a quite different compartment. Yet in terms of numbers most scientists are in fact applied scientists. C. I. Powell himself a great pure scientist and Nobel prizewinner, said that 85 per cent of the scientists who have ever lived have been applied scientists. An impressive statistic even though its origin is not given.

I believe that this emphasis on the purity of science has done much to discourage its study by historians. For when it is found that they do not behave like angels, the hack-losh turns them into devils, whereas they are just human, like other mortals, with the same mixed motives, mixed goals and mixed relations with their colleagues and competitors. The discovery that these distorted views of scientists goes further, that there is an assumption that a paradise exists to be regained; that if scientists cleaned their past-1939 sins and became socially responsible, ethically inequivalent answers no all kinds of questions would then be vouchsafed to them.

Earlier I defended politics as a focus of historical study among history undergraduates, but said that it must include the politics of science. Science undergraduates should also study the political history of science. For science has been a part of politics for centuries—a crucial thread in revolutionary thought. The history of science is an assumption that a paradise exists to be regained; that if scientists cleaned their past-1939 sins and became socially responsible, ethically inequivalent answers no all kinds of questions would then be vouchsafed to them.

The history of science has tended to be an esoteric profession in the past, too often marginal in mainstream history and science alike. It has been predominantly, though by no means exclusively, an internalist subject concerned with pure science, and as some historians have looked increasingly at science in relation to society, they have been called externalists. Such observations are imaginary and unfortunately for the external and internal sides of a problem are integral to one another. However, the history of science, profession is indeed perceptibly changing. Not long ago when now departments were set up for the study of science and society they were called departments of science, department while now they are frequently joined in them. As the history of science moves into other fields of inquiry the emphasis will grow on historians' history—on the study of interrelationships between external and internal rather than on the study of science itself. The detailed reworking of mathematical papers or scientific experiments—which has provided in the past so much of the stock in trade of the profession.

An edited version of Mrs Gowing's recent inaugural address as professor of the history of science at Oxford University.

# Journalists and academics: the need for cooperation and understanding

Tom Hopkinson discusses the case for setting up a research centre for the study of problems of communication

It is generally accepted that there is a conflict of ideas and ideals between the academic and journalistic worlds. On the whole, the aim of the academic world is to say nothing until you can achieve certainty, or something approaching certainty; to avoid publication; to avoid speaking until you know that what you are saying is right, and can be proved right. The aim is certainty; the quarry truth.

The journalistic world necessarily operates under different rules. Its aim is to achieve the quickest possible disclosure of whatever information is available. People demand to know about a situation as it is now. They will not wait for developments to take place and certainty to be arrived at.

The mass media, therefore, are constantly forced into giving judgments or statements while they are still forming and developing. For these working in the mass media, in situations where the truth is often hard to come by, the conflict between the wish to achieve accuracy and the need to fill columns immediately can be very great.

ground that there was some doubt about the facts—for instance on conventional camps. The paper preferred to wait for certainty and "waiting for certainty" was disastrous in such a situation.

If the aim of the academic is certainty and his quarry truth, the aim of the journalist is disclosure and his quarry enlightenment. Consequently the aims and ideals of both sides may be valid, yet lively conflict and be hard to reconcile.

If the demand for immediate information can lead to absurdities, the conflict between the two attitudes can also lead to mutual hostility. We are all familiar with, on the one hand, the "ivory tower" accusation; and the "gutter press" accusation; and the other.

The course which has been established at University College, Cardiff, during the past five years is just one example of the ways in which the mass media and centres of higher education can work together for the benefit of both. And indeed the problems of both are sufficiently pressing to demand cooperation.

It is probably not too much to say that unless their financial problems are solved, the mass media will not be able to do their job. We know that today could become exact by the end of this century. Not only does each copy of a newspaper have a life as short as a snail's. It is also perhaps the only product sold at a quarter in the difference between its production and its sale. But advertising depends, of course, on national productivity.

At a recent Franco-British enquiry the problem was taken a stage further. If information is so valuable a commodity, ought it to be taken out of the field of news and made as free as air and water ought to be? And if so, how? But if, on the other hand, we expect information to make profits, then how much profit? And for whom?

colloquy was taken up with quite different issues, those issues which might be called philosophical rather than financial.

These are also problems which in a different form affect the academic world—and indeed every part of the modern world—just as much as they affect the media.

The first problem was stated as: "The right of communication is a fundamental of our society; this right has now to be democratized."

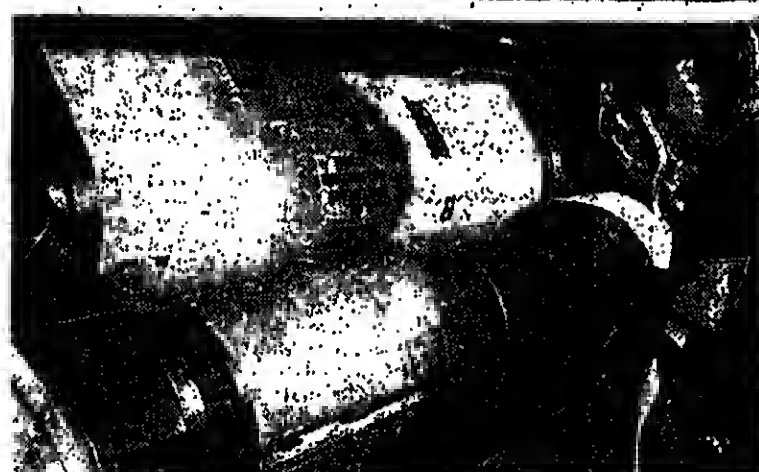
"Democratized" is not a word I enjoy using but it is the word which was used, and I do not seem able to find an alternative. What does this sentence mean?

"Communication" is the free flow of information; it is vital to free government. People must know in order to form judgments and to act. Aristotle said of courage: "It is a virtue in itself, but the condition of every other virtue."

Similarly, the free flow of information is the condition of every kind of free activity—not only a free press and a free industry, but of a free judiciary, free politics and a free academic life. In the past, largely political, governments have refused to allow information to be made available; on grounds of "national security". Today, we are being forced with barriers of a different nature. One of these, indeed, is the financial barrier of which we have already spoken.

There is also the question of how to ensure that communication is really in touch with those to whom they are trying to communicate—a question just as important to the academic world as it is to the journalist.

Journalists have to ask whether or not they are in touch with the people who are actually living in one another's lives. For instance, becoming editors, technically competent, coming to know more and more about the way information is produced, printed and distributed, but less and less about what they



The press: financial hazards alienate readers are really saying and thinking.

That this is no fanciful picture is made plain by the way circulations of some national and provincial papers are visibly melting away while others in similar-seeming circumstances hold their ground.

The point I have been trying to make is that problems of communication are not solely the concern of journalists. We are all in the communications business, and we are all politicians, editors, academics, businessmen, in varying degrees by our failure to communicate with full effectiveness.

I am convinced that solutions to the problems of communication depend in particular on close cooperation between the academic and journalistic worlds, each having certain skills and knowledge which require to be brought together in a fusion of talents and a blending of methods.

On the one hand we need scientifically directed research; on the other we need the capacity to express the results of such research simply and readably, and to relate them to immediate targets or intentions.

Such cooperation is impossible without mutual respect and understanding, which becomes needlessly difficult when attitudes of superiority/inferiority, with resultant distrust and hostility, are fostered. Provided we overcome these goodwills, I suggest that a practical step should now be taken.

A research centre should be set up—in the first place to make a nucleus—to enquire into problems of communication. This could be a specific problem, the mass media, and of communication in the academic field, both sets of problems having implications for the whole present-day world.

This centre, I suggest, should be established in Cardiff in connection with the Centre for Journalism Studies. It should be set up as a research centre, rather than solely as a teaching centre. It should have a permanent staff, having extended contacts with the media and the academic world; and the first subject for inquiry should be mutually agreed between both.

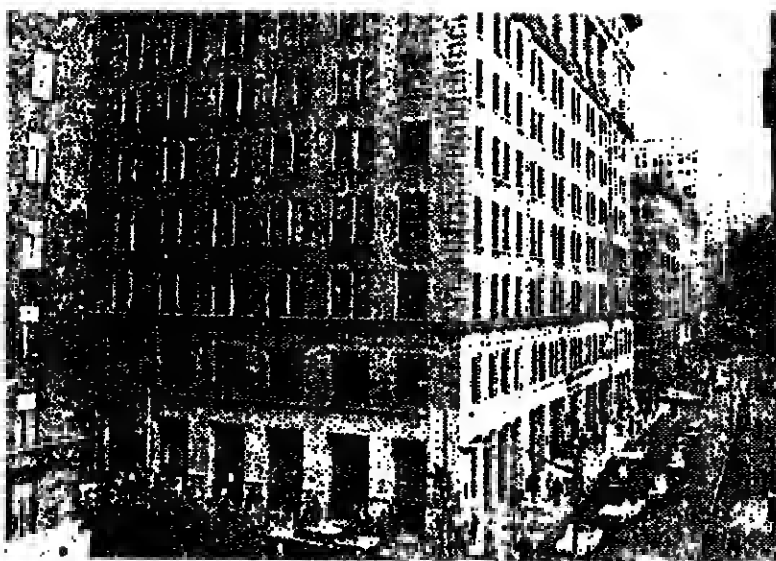
If it becomes possible to set up a senior degree—in the disciplines of journalism, political science, sociology, or MA in Journalism Studies—this could provide a handful of established journalists on an academic leave, who might cooperate in the research while working for their degrees.

Since the problems would inevitably have legal, economic, social, political and industrial aspects, the centre would need a wide range of departments, but the problems of operation from a wide range of departments would be asked to cooperate in solving would have direct application to their own activities. We are all involved in communication.

An edited version of Mr Hopkinson's voluntary lecture as director of the Centre for Journalism Studies at University College.



## American news



New York University's main building at Washington Square.

## Job shortage gives boost to NYU summer studies...

from Frances Hill

NEW YORK

The number of students taking summer courses at New York University is expected to be 3 or 4 per cent more than in 1974.

This predicted rise in enrolments for summer courses at NYU reflects a nation-wide trend. Owing to the difficulty of finding summer jobs students are increasingly using the summer as a study period. Even part-time jobs are hard to find, so many students are taking more courses than in the past, studying full-time instead of combining study with a job.

Summer study has advantages for students and institutions alike. Students who study throughout two summer vacations may earn two degrees in three years instead of four, and those who study for one summer may shorten their college career by a semester. Institutions benefit financially from high enrolments during summer vacations. One of the reasons for the expansion of summer programmes during the past few years has been the parlous economic situation of many universities and colleges.

Universities have recently started doing "a better job" of summer programming, according to Robert Kichie, of the Association of University Summer Sessions. They are considering students' needs more closely, and offering courses that students want instead of courses that faculty members opt for summer programmes. Many institutions are now organizing several summer sessions instead of just one, with "maximum flexibility" so that students can take courses when most convenient. A student might hesitate to take on a 12-week term in length, so institutions are offering six and eight week sessions, or even three and four week sessions. New York Uni-

versity is providing 20 different types of sessions, within 10 university departments.

The range of summer courses varies widely from one institution to another but there are now few universities and colleges which offer no summer courses at all. As well as courses for credit for full or part-time undergraduates and graduates students already enrolled in institutions of higher education there are credit courses for teachers and other adults earning degrees solely or largely through summer sessions. Indiana University is tapping the "teacher market" by providing intensive courses for credit specifically for teachers immediately following the end of the school year.

New York University's graduate school of arts and sciences offers students the opportunity to gain a master's degree after two summers' study in France, and grants an MA in field biology to students completing two summers' work in a forest near New York. The NYU school of education grants MAs to students after three summers of study, two in foreign countries and one at the university.

Many universities and colleges offer non-credit courses during the summer as part of their adult education programmes, since for many adults the summer, when annual holidays are usually taken, is the best time for study. Of the 13,415 students who took courses at NYU in the summer of 1974, 2,910 were only seeking credits.

Only one university, so far, has had a higher enrolment during the summer than at any other time of the year: the University of Hawaii. But to a far greater extent than 10 or even five years ago, the traditional distinction between term-time and the summer vacation at universities and colleges is beginning to blur as more students opt to treat the summer recess as though it were a third semester.

## but Yale finds it hard going

In 1972 the Committee on the Future of Yale College recommended that Yale Institute an innovative, compulsory summer term system as a means of raising revenue and offering students a more challenging academic experience. The first summer term began on June 3, but far from being the financial lifeline that it had been hoped to be, it was a disaster. It broke even, according to one Yale administrator.

The summer term concept was originally devised in anticipation of a sharp decline in attendance of about 1,400 students who would pay a total of \$1m. Students would have been required to attend for at least one summer of their four years instead of leaving facilities idle in the summer.

The 1972 plan, however, was highly unpopular with both faculty and students, and after much debate was discarded in favour of a three-year experiment with voluntary attendance. Students objected to the mandatory nature of the project, and many of the faculty supported them.

After the committee was brought

College said "there is an advantage in the optional nature of the term because it gives us a laboratory, or a house, to grow exotic innovative courses which can then be transferred to the regular curriculum."

A total of 570 students have enrolled in the first summer term, and since tuition fees for the nine weeks are \$1,365, they will save 25 per cent of normal fees during the autumn and spring terms. Although 625 students were needed in order for the summer term to break even, the college is hoping that Yale can balance its summer budget.

The innovative nature of the summer term has led to the organization of courses into interdisciplinary programmes instead of departments. Courses are grouped into three centres: one devoted to the humanities, one to social sciences and one to the natural sciences.

Each centre has its own director and faculty and each offers courses grouped within comprehensive programmes. One of the programmes, a cluster of courses on the English language, will be included in the fourth international congress on the English language, which will bring scholars from 25 countries to Yale.

## Colleges get 'minority bias' reprieve

from Angela Stent

NEW YORK

The Office of Civil Rights of the Department of Health, Education and Welfare has worked out an agreement with the Department of Labour which may save 14 colleges from losing over \$20m in federal contracts.

The colleges were in danger of losing the contracts under a Department of Labour executive order stipulating that federal contracts over \$1m should not be paid to institutions which have not initiated acceptable affirmative action procedures. "Affirmative action" is the hiring of minority group members and women in proportion to the numbers available for employment.

With the approval of the Department of Labour, the Office of Civil Rights has offered the 14 colleges the option of signing an agreement to meet with Office of Civil Rights officials and then to begin taking acceptable affirmative action measures within 30 days, in return for receipt of its federal contracts on July 1.

The 14 colleges in danger of losing their contracts were among

32 granted federal contracts whose affirmative action procedures were not found acceptable by the Office of Civil Rights.

The other institutions have managed by various means to avoid reaching a situation in which their contracts are in jeopardy. Some have negotiated to have the amounts of their contracts lowered to below \$1m, so that they are no longer affected by the executive order, and some have been able to postpone receipt of their contracts until September 30. In this latter case the institutions are receiving contracts from the federal Energy Research and Development Administration which does not automatically lose its funds for contracts if not paid out by July 1.

These colleges, which include Harvard, Yale and Princeton, may be able to initiate acceptable affirmative action procedures within the next three months.

The measure which the Office of Civil Rights has had to take in order to prevent institutions losing contracts highlights the difficulties inherent in the Department of Labour executive order as applied in educational institutions.

The order rules that all employers

including universities and colleges must analyse the proportions of Blacks and other minority group members and women on their staff and set goals in which procedures can be submitted and checked.

Federal agencies granting contracts released details on the amounts and institutions involved only at the beginning of June. In many cases the sums granted to institutions must be paid by July or the money will no longer be available, so that it is impossible to delay payment until the institutions have come in line with the law.

It also means making a survey of the numbers of women and minority group members available for employment in the institutions. This procedure is highly complex, since universities and colleges clearly recruit faculty on the basis of a number of considerations such as academic standing, success in publishing, original work, teaching ability and more intangible personality factors. It is extremely difficult to enumerate the minority group members or women with the right qualifications for particular academic posts. It is also time-consuming and expensive, posing real problems for small institutions.

## Union calls for end to FBI 'interference'

from our correspondent

NEW YORK

Professor William van Alstyne, president of the American Association of University Professors, has called on the United States Attorney General to make "enforceable assurances" that the Federal Bureau of Investigation will be prevented from abusing the rights and liberty of individuals.

He has also requested that disciplinary proceedings be initiated against FBI officials who were involved in the case of a tenured university professor who was sacked from his post without adequate cause.

Professor Morris Starkey was dismissed from Arizona State University in June, 1970, after FBI officials had sent an anonymous letter to the university faculty committee convened to consider Professor Starkey's dismissal.

The letter claimed that Professor Starkey had behaved in a physically threatening manner on one occasion—a claim totally denied by those "who could have been party" to the alleged incident, according to J. Edgar Hoover, associate general secretary of the AAUP—and that he was financially irresponsible and a liar. None of these claims was substantiated.

The committee decided against dismissal but the Board of Trustees overruled them and fired Professor Starkey. They accused the professor of taking part in activities likely to be damaging to the reputation of the university, such as absconding himself from ASU for a day to address a student rally on another campus.

The university's records of the passage last year of the Freedom of Information Act, Professor Starkey succeeded in obtaining FBI documents relating to his case from William B. Saxbe, then Attorney General. He discovered the exist-



Professor Starkey: anonymous letter.

ence of the letter sent to the committee, signed "a concerned ASU alumnus" but in fact written and sent by FBI employees.

He informed the AAUP, already concerned with his case, and as a consequence Professor van Alstyne made his appeal to the Attorney General.

Professor van Alstyne has received no reply from Mr Saxbe, but Mr Clarence Kelly, director of the FBI, has claimed that FBI activities of the sort in question were "designed to counter the conspiratorial efforts of revolutionaries in this country and that, in his view, FBI employees involved acted entirely in good faith."

Professor van Alstyne has written to William Saxbe's successor, Mr Edward M. Levi, asking for assurances to provide "some basis for restored confidence in our own national police." The AAUP voted unanimously at their annual meeting last month to request Congress to establish effective legislative control of government agencies to ensure that they operate "only in ways consistent with the Constitutional guarantees of individual liberty."

The AAUP has already urged the university to reinstate Professor Starkey. So far the Board of Trustees have refused. They are expected to offer a "cash settlement" in lieu of reinstatement, but Professor Starkey claims he will not accept such an offer. If the Board of Trustees decline to order to do so, they will be in contempt of court and liable to fines or imprisonment.

## Senior citizens study work problems

Students ranging in age from 62 to 84 have enrolled in a new training programme, "Employment Opportunities for Older Adults," organized by the School of Continuing Education at New York University.

The project has three aims: to dispel the elderly's fear of the job market, to design training programmes leading to paid employment or volunteer service, and to advise the elderly regarding work projects and educational needs.

Two of the five courses are

## Enrolment up among Blacks and women

College enrolment among women and Blacks has increased dramatically over the past decade, says a report from the Census Bureau.

Enrolment among women has approximately doubled since 1964 and among Blacks it has grown from 234,000 in 1964 to 684,000 in 1973, an increase of 192 per cent. But whereas one-third of White youths aged 18 to 21 were enrolled in college in 1973, for Black youths in the same age group the figure was only one-fifth.

The Census Bureau report, *Characteristics of American Youth: 1974*, shows that the children of white-collar workers are more likely to attend college than the children of blue-collar workers.

In 1973 65 per cent of high school seniors whose families were headed by white-collar workers reported that they planned to attend college, compared with 33 per cent from families headed by blue-collar workers. Conversely, a higher percentage of high school seniors from families headed by blue-collar workers reported plans to enter vocational schools.

About 10 per cent of seniors from white-collar families reported no plans for higher education, compared with 21 per cent of seniors from blue-collar families.

## More women graduate students

from Don Spelch

PALO ALTO

Minority group enrolment dropped slightly, while women increased across the board in Stanford University's graduate and professional programmes during 1974-75, according to a report by graduates' group Mr. Lincoln Moses.

Black Chicago and native American enrolment is placed at about 531 students, up from 492 in 1973-74. The number of women graduate students rose from 383 last year to about 1,128 this year.

The total enrolment in Stanford's graduate and professional schools was 4,895 this year, as compared to 4,823 last year.

During the past two years said Mr Moses, total Black applicants for Master's and PhD programmes to the humanities dropped more than 50 per cent while those in the social sciences declined 38 per cent.

A year ago Mr Moses reported a significant shift from doctoral to professional degrees programmes in business, law and medicine among minority students. During 1974-75 applications from American students and Blacks increased substantially more than offsetting a slight decline

Judy Chase talks to Dr James Maraj, the new vice-chancellor of the University of the South Pacific

## Survival will depend on 'usefulness'

The challenge facing Dr James A. Maraj as he takes up his new post as vice-chancellor of the University of the South Pacific at Suva, Fiji, this summer is little short of overwhelming. He reckons that the fledgling university may not survive the next decade unless it proves itself as the regional institution it was originally intended to be. He also knows that it will be up to him to steer it on to that course.

Dr Maraj, who has earned himself a reputation as a creative thinker during his tenure as Commonwealth Assistant Secretary General, said in his Marlborough House office in London that he is looking forward to the chance to apply his unconventional ideas on higher education in the USP job.

To all appearances, the 44-year-old educationist from Trinidad is the ideal choice for the South Pacific post at this time both in terms of personality and experience. Before coming to the Commonwealth Secretariat in 1970, he served for three years as head of the University of the West Indies' Institute of Education, where he dealt with 14 separate governments and learned, as he puts it, "to walk between the raindrops and not get too wet."

Dr Maraj anticipates that his hopes for USP are likely to be received as heresy in established academic circles. Nevertheless, he is convinced that "universities, particularly those in developing countries like the South Pacific Islands, no longer have the right to be supported by governments while behaving as though they were separate states."

It was no longer enough for them to concentrate on the throughput of students, who get prescribed dosages of knowledge in three to four years and then go back home. In addition to serving as a vehicle for missing society's manpower needs, universities should begin to respond in a much more dynamic way to the development of the society itself.

"So, if the object of the South Pacific countries is regional development, then the University of the South Pacific should be one agency of regionalism."

In anticipation of the arguments likely to be waged by those who would disagree with him, Dr Maraj stressed that he does not mean the USP should be without an internal philosophy or that it should become a kind of South Pacific handyman ready to dispatch a fix-up team in response to any and every little problem that should arise. He simply believes that "universities must concern themselves with the burning issues of the day, not necessarily by adopting postures, but by being part of the background knowledge against which important decisions could be taken."

Since USP was established in 1968 to serve 10 South Pacific island communities — four independent Commonwealth members (Fiji, Western Samoa, Tonga and Nauru) plus six other territories (British Solomon Islands, Cook Islands, Gilbert and Ellice Islands, New Hebrides, Niue and Tokelau Islands)—it has been dominated by Fiji. At the moment three-quarters of the institution's \$31m annual operating budget and two-thirds of its 1,000 student enrolment come from Fiji.

Sweden

## Pay stays ahead of inflation

from Mike Duckanfield

STOCKHOLM. With average annual price rises of only about 8 per cent per year during the 1970s, Swedish university teachers have gained real increases in salary according to figures by the Central Bureau of Statistics.

The figures show that in the period 1971-73 monthly earnings in universities rose between 10 and 15.5 per cent.

The biggest rises went to the lowest grades of research assistant and lecturer. They each received increases of between 14 and 15.5 per cent. On the other hand, only research areas of between 10 and 11



Dr Maraj: on a tightrope.

USP's emphasis so far has been on student training, particularly the upgrading of school teachers. Apart from its faculty of education, the university also has faculties in natural resources, social and economic development and extension studies.

Dr Maraj is not critical of what has been accomplished at USP during its first seven formative years under the vice-chancellorship of Dr C. C. Aikman, who is leaving to become New Zealand's High Commissioner to Delhi.

In fact, he says he would "argue strongly that a good job has been done" of getting this essential function under way. But he feels it is imperative that this university move on now to fulfilling its regional function.

Dr Maraj will give priority to establishing a problem-oriented development institute, which he sees as the key to the university making a regional impact. The institute would consist of a multi-disciplinary team of specialists who would have joint responsibility for spreading the university's presence throughout the region.

Another urgent priority will be an extensive staff development programme to train local people to fill key positions in the university. At present, a high proportion of those in top positions at USP are foreigners, mostly from New Zealand.

The looming vice-chancellor's next priority would be to give USP a Pacific flavour. Specifically, he would like to see Pacific studies become a much more integrated part of the work of all students than it is now.

He argues that before the question of affordability can be faced, governments in the region must first be persuaded that "there is something in the milieu at USP which makes it worth having. Right now, the countries feel that what they are getting is what they could get more cheaply elsewhere—at the Australian National University, for example. Therefore, it would be futile for me to expect to raise new funds just by doing a round trip through these struggling communities and saying: 'Well, here I am.'"

Australia

## Major funding urged for non-university sector

from John Kirkaldy

SYDNEY

The report of the Commission on Advanced Education in Australia has recommended federal spending of A\$1,681m (£960m) over the next three years. This will mean an annual increase from the present A\$400m to about A\$560m.

The commission, which was established in 1971 to advise the government in relation to Australia's 85 colleges of advanced education. These include all tertiary colleges (except universities, which are the responsibility of the Australian Universities Commission), institutes of technology, multi-technics, agricultural, theological and teachers' colleges.

The basic theme of the commission's report is the transmutation of recent spectacular growth rates. In 1963 there were only 28,000 students in advanced education. By 1972 this had grown to 95,000 and the current figure is 123,000.

The report urges that A\$564m be spent on capital works but this is mainly to improve or extend existing institutions. The commission hopes that institutions will incur less sharp cut in the government's existing facilities, as it believes that student numbers will have grown to 175,000 by 1978.

The allowance of A\$1,093m for recurrent expenditure includes A\$6m for study leave for academics at the colleges.

The commission noted that 42 per cent of all students in advanced education were studying education courses, while commerce and business studies accounted for 20 per cent and engineering and technology only 1 per cent. The commission stresses the need for more places in teachers' colleges to cope with the increased numbers under the federal schools programme.

New projects outlined in the report include a college of education to be built on Burswood's site (to be completed by 1979), a multi-vocational college in the Cockburn area of Western Australia and the reallocation of several New South Wales colleges into new buildings, including the Sydney College of Arts.

The commission recommends that A\$4m be spent to provide residential accommodation for more than 520 students. The proposal is that the government provides up to A\$6,000 towards the cost of each student place in a residential college with the balance to be borne by the donor. It also recommends student allowances of up to A\$235 for those students in a residential college.

The whole report is subject to the approval of Parliament and there have been some suggestions that the figure of A\$1,681m may be slightly in excess of the figure of the point of tertiary education in 1964-5 comprised 28.6 per cent of total public expenditure but, in 1973-4 this had risen to 34.7 per cent; in contrast, the proportion of funds for schools in the same period dropped from 65.4 per cent to 58.5 per cent. Mr Kim Beazley, the federal Minister for Education, has indicated that the A\$2,070m requested earlier this month by the Schools Commission is more likely to be left untouched.

New Zealand

## Auckland probes home backgrounds

from Brian Priestley

CHRISTCHURCH. Research into the background of 1,000 first year students has begun at the University of Auckland on a project of an attempt to improve the educational environment in which they work.

Later in the year, two groups of about 100 students each will be interviewed. One group will be asked, "what are your dreams for the future?" and the other will be asked, "what are your fears?" The aim will be to relate their success, or failure, to the background data and the educational environment in which they are

Republic of Ireland



Pota Island's stately home: tomorrow's campus for Cork?

## Cork lands itself an island—and financial surplus

from Peppy Barlow

DUBLIN

University College, Cork, has pulled off one of the most spectacular land deals ever concluded by an educational institution in the Republic—a deal which may provide it with an embarrassingly large financial surplus, but which will also involve the college in disputes with local farming interests and the Higher Education Authority.

The college's governing body has decided to take up an option to purchase Pota Island, a 780-acre estate 10 miles from the centre of Cork city, for about £400,000. It includes 200 acres of park and woodland, 350 acres of arable land, some of which will be used as the basis for the Faculty of Agriculture farm, a world-famous collection of trees and shrubs, walled gardens, and an early 19th century stately home.

To finance the purchase, the college is to sell 150 acres of agricultural land which it owns at Ballinacolla, on the other side of the city, and which is being sought for an industrial estate. The value of this land is estimated at £700,000, and the college also owns further land which is under pressure for housing development and which could, if sold, realise another £300,000.

Pota Island, which is approached by a bridge over a tidal inlet, has in fact been spoken of as a possible

alternative campus (the college's 4,000 students are presently taught in relatively crowded conditions near the city centre), but at the moment the only use envisaged for it is as the farm centre for the Faculty of Agriculture.

The minor improvements and alterations necessary to make it into the farm centre will, however, still leave a surplus of income over expenditure in the region of £250,000; the immediate problem facing the college authorities is whether they will be allowed to spend this windfall themselves.

There are many projects connected with the college on which they would like to spend the money, but the likelihood is that the Higher Education Authority, the statutory body which advises the Minister for Education about the funding of higher education generally, will insist that national priorities must take precedence over local interests.

The Minister could, on the advice of the HEA, reduce the college's general grant by the amount of the surplus on the deal, if the college refused to agree with this point of view.

While all this is going on, the college will also have to pacify a group of nine local farmers, who hoped that the college land would be publicly acquired and divided among them, and who sharply resent the college's alleged lack of consultation with them on the issue.

West Germany

## Bavaria in new clash over university capacities

by Günther Kloes

In the continuing absence of a federal general framework law for universities, each constituent state is carrying on enacting its own university law for the institutions within its jurisdiction.

Bavaria was the most recent Land to pass a new law, which came into effect in October, 1974. For the past few months the Bavarian universities have been trying to implement its provisions and to revise their own statutes. There has been considerable protest from students.

The whole matter of admissions is causing disagreement between the university and the Bavarian Ministry of Education. The Central Admissions Office has developed a complicated formula according to which the student capacity of every departmental unit is now being determined by every university throughout the Federal Republic in all those subjects where admission is restricted (ZHS, February 28).

According to the formula, which no one is happy with, the number of the most overcrowded institutions in the country. None the less, the Ministry, which believes that the university has more space and staff than it has admitted, has a complicated formula according to which the student capacity of every departmental unit is now being determined by every university throughout the Federal Republic in all those subjects where admission is restricted (ZHS, February 28).

At the same time the Ministry has introduced a modest yet significant change of manpower planning. While the university calculated its needs for new teachers (including those who are to be replaced by new students), the Ministry cut this figure to 1,200. Similarly the university's proposed intake for sociology (220) has been reduced to 150, though this is still beyond the university's calculated student capacity.

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## The future of books

Contacts between publishing, book-selling and the world of higher education have grown apace recently. They are to be welcomed in forms such as the conference on books and undergraduates held last week under the auspices of the National Book League, which will undoubtedly lead to a better understanding of students' reading habits, publishers' advertisements and booksellers' stocks.

The new contacts have other benefits, too. Elementary economics textbooks—which, incidentally, are a lucrative source for some publishers—tell us there are few examples of perfect markets in the real world. The book market is certainly not one. But when it comes to publishing economics books, whether they are monographs resulting from research or books for teaching students, the test of the market can be a valuable discipline.

At last week's conference Sir Frederick Dalton, chairman of the University Grants Committee, complained about vast inflation of titles of new books published in recent years. He may have been a little naive in not examining further the cause of this boom. Publishers, by and large, work according to the commercial rules as efficiently as other sectors of British industry and commerce. If titles have proliferated it has been because libraries, departments and academics have bought them. The corollary of this was stated quite plainly by Sir Frederick. The reduction in the expansion of higher education will mean it becomes more difficult to get published as books become harder to sell. The market test is a good one for it allows publishers to make judgments about academic worth yet the better books are likely to survive.

This line of argument should not be taken too far. Sir Frederick's point was an interesting inversion of the usual—namely—worse controversy. He said the fewer titles could mean better quality work getting to the academic public; publishers would go for better authors because they would be more saleable. But this leaves little scope for novelty, for the untired young academic without a reputation, for new thinking.

Does the market need cushioning? Publishers are ever to any suspicion of state subvention, even in the relatively innocuous form of a national research service as suggested recently by a group of Oxford academics. Their answers tend to be in the economic methods of production, widening the export market because of the smallness of the British higher education world.

The situation is unruly but does not yet lend itself to that word of the moment—crisis. For example, publication is more than getting new ideas and new thinking through to an audience. It is a synthesis, a selection, a judgement, a very important index of the academic's worth when it comes to promotion and assessment. It is

unity in that, as the publishers say, more and more books have to appeal not simply to the British university world but to the English-speaking world at large, which by and large means the United States. Writing for America could lead to a kind of sideways straddling of material and thought that could make a book vacuous. Equally, what price does the economicism of scholarship have: a book destined for America but sold in the home market at a lower price making it more generally available. Writing for America could improve the quality of the work, not least in making the author more aware of students' needs within the more formal courses common in American higher education.

In fact, the American model of student textbooks, particularly in one of its British adaptations—the Open University's course materials—has been outstandingly successful in recent years. Here the point made at last week's conference by one of Routledge and Kegan Paul's editorial staff was important: the reinforcement in educational spending and publishers' cash flow problems could lift this kind of academic innovation which has been spurred by the growth of new polytechnic degree courses, a reappraisal of teacher training, the DfHE and of course the OU itself.

The point of the OU's success is that materials prepared for a specific kind of audience have acquired the reputation that makes them desirable for other kinds of educational audience. Likewise becoming an "OU author" is greatly desired by academic writers because of the secure payments it brings. What is important is the example the OU has given to other institutions. A halt in the expansion of higher education should not stop innovation in educational materials—a responsibility not of publishers, but of those staff who more and more will have to pay attention to the detail and costs of their teaching.

At this point some academics hesitate, with some justification. They have grave pedagogical objections to "spoon feeding" methods such as over-detailed course materials, the expansion of snippets to original sources and monographs. They consider there is a danger in consigned education, predicated in the American way with the consequent loss of the heuristic approach for the student.

The drawing together of publishers and academics will make that kind of shifting emphasis easier, publication of books. Having fewer books to publish—which is certainly the fate of most of the larger publishing houses—could provide a useful breathing space for just that kind of reappraisal. No-one is going to welcome reinforcement without qualification, but Sir Frederick Dalton's sighting of some positive gains from slackening the pace of publication is a view to be shared.

### Tertiary colleges

from Mr David Terry  
Sir—Lord Alexander (THES, June 20) does not tell us why he considers the establishment of tertiary colleges to be inevitable by the development of comprehensive schools of limited size and I am, therefore, compelled in seeking to challenge his conclusion, to guess at his assumptions.

Perhaps he thinks that it would be cheaper to run schools from a number of schools together in one (large) establishment. If so, I wonder whether he read that Mr Armstrong, in a parliamentary written answer on April 24, gave the overall ratio of students to staff at sixth form colleges in England and Wales as 10.7:1. Most of the staff sixth forms in schools are about 12:1. There is not the slightest reason to suppose that sixth forms or tertiary colleges would save money on staffing. And it is surely obvious that in terms of facilities

more expensive as they would necessarily duplicate facilities already existing in many schools. It is sometimes maintained that small sixth forms can provide only a very limited range of subjects, I know of no objective evidence on this, but I do know that schools up and down the country are co-operating so as to pool similar subjects and increase the range available. There is no reason to think that tertiary colleges have a significant advantage in this. Indeed, by attracting scarce specialist teachers away from the schools, the tertiary colleges directly threaten the subjects, such as Latin, which can then exist only as post-16 subjects.

Or perhaps Lord Alexander subscribes to the view that there is a more adult atmosphere in a tertiary college which enables a sixteen-year-old to blossom in a way which a fifteen-year-old would not. Yours faithfully, DAVID TERRY, Headmaster, The Headlands School.

## LETTERS TO THE EDITOR

### Academic publishing

from Dr Ursula Henriques

Sir—A typescript of some 500 pages, the fruit of 10 years work, which had been destined by agreement for a well known historical series of a very well known publishing firm, was returned with the following comment: "... our difficulty at the moment is to produce a book like this and publish it at a price which the market can afford."

The market seems to be diminishing daily. It is a crying shame when good scholarship just cannot appear because of economic forces. At present any postgraduate dissertation enjoys better circulation than an unpublished book. At least it is listed, and can be obtained through inter-library loan. The book, inhabiting a bottom drawer, is not known to exist. There appears still to be a chance for the friendly publisher, the slim monograph (comparatively inexpensive to print), or the learned specialist text to which certain university presses prefer to devote their resources. The substantial and formerly saleable work of scholarship of 100,000 words or over, now, it seems, has little prospect of finding a publisher.

No cannibalism can stifle creative endeavour as effectively as refusal, for economic reasons, to publish.

As the situation deteriorates the following questions arise:

How can university teaching worth the name be carried on when the latest thinking on the subject taught is unavailable?

On the assumption that senior academic posts will occasionally become vacant, how can chairs, readerships and so on be filled when the evidence of creative work by the candidates is unavailable?

Seeing that most people choose a university career largely for the sake of the opportunity it gives for research and scholarship, and seeing that writing is normally considered a function of the university teacher, how can that function be fulfilled when publication is unavailable?

I have as yet seen no indication that the seriousness of the situation is appreciated by senior academics and administrators. Presumably Leverhulme and similar grants are being distributed as usual, without reference to the likelihood of the completed research ever seeing the light of day. Is it not time that leading academics, university administrators, and above all, the university presses, joined to devise a rescue operation? They would need to find out what funds are obtainable, set up machinery for the different disciplines to sort out priorities, and consider some form of publication, say, in a journal, that would be important not to allow this to develop into any kind of permanent official control of academic publishing, just now it would be better to risk even that than to lose scholarship at the mercy of a collapsing commercial market.

Yours sincerely, URSULA HENRIQUES, University College, Cardiff.

### Teacher training cuts

from Mr Denis McCready

Sir—Government proposals for even more drastic cuts in teacher training numbers, put to the Advisory Committee on the Supply and Training of Teachers on July 1, 1975, seem to make it more likely that serious consideration will be given, once again, to the proposal to admit to students of all to every three years of teacher training in 1977 or 1978.

Until this July it was understood that the Department of Education and Science initial training intake proposals were to be more like 17,700 in 1977 and 12,000 in 1978. Now we know that a further cut of 13 per cent is proposed for 1976, the chances of an intake in one year before 1979 looms before the colleges as a possibility. What may have been likened to a bad dream like becoming a night mare with every college under threat no matter what assurances it may have been given for the future. These proposed cuts call into question the viability of the whole college of education sector. But does it do only while the sector is engaged solely in the training of teachers. If the sector could produce integrated and coordinated courses, diversification on a revolutionary scale the job prospects of thousands of lecturers could be improved and threats to unemployment would disappear.

The situation could be changed very rapidly if colleges of education, however reluctantly, were prepared to offer most of their places to students who wished to follow joint courses to educational studies and to teacher training. A minority of places in every college of education would be for students on courses of initial training. This could be achieved if colleges replaced their BEd degree courses, which are initial training courses, by courses leading to the awards of a BA or BSc (honours) in education without a licence to teach. This educational studies undergraduate studies would be courses of initial training. A number of British universities have been offering courses of this type for several years and they might be popular as they might in colleges of education.

Smaller colleges replaced by colleges of education by without a licence to teach, students on these courses would not be students in initial training. Postgraduate and post diploma courses of professional training with a licence to teach would need to be available for initial training.

For college of education staff who are wedded to the notion of concurrent training and are opposed to on-on courses, the proposals for educational studies degrees and diplomas to be followed by initial teacher training may not be attractive. The alternative would be for them to stay in a pattern of concurrent training in which all their students would be identifiable as students in initial training and therefore subject to cuts which must flow from population changes which they cannot control.

Some colleges have moved in this direction already and they have plans for extensive diversification. Talk about diversification or about a reduction in numbers would seem to be irrelevant if all college development plans for diversification so that the great majority of college of education students could not be identified as students in initial training for teaching. Colleges may be very reluctant to depart from the past with its single-minded commitment to teacher training but they should recognize the necessity to enter the future with a belief that they have a major contribution to make in educational studies for non teachers. How else can they hope to survive? Diversification is no guarantee of survival but it could raise the viability of the colleges.

Yours sincerely, DENIS MCCREADY, Clifton Crescent, Solihull, Warwickshire.

from Mr Eddie Wainwright  
Sir—It is to be hoped that your leader on the subject of the saving of the colleges of education (THES, July 4) will help to persuade the DES to depart from its policy of doubt whether even if it did so, the colleges would now be in the slightest degree placated or recognized for their fate.

We can only suppose that either the DES has (in spite of all appearances to the contrary) a subtle plan for the reorganization of teacher education which it is concealing (a) in order to pick off individual institutions on the basis of some absurd logic which it realizes nobody but itself would understand; (b) in order to avoid missing to the point of militant action the immediate anger and frustration which a revelation would surely provoke and are at present being conveniently contained by fear and demoralization; or, quite simply, that it is making up its mind to do nothing. Whether possibility inspires confidence. Yours sincerely, EDDIE WAINWRIGHT, Benville Avenue,

### War studies

from Mr Malcolm Pittcock

Sir—In a journal meant for an academic readership, Kenneth Minogue's belligerent piece (THES, July 4) was out of place. He should argue his views fairly, not sustain them by falsification and misrepresentation. Issues are never clarified in such a way. Let me give some examples:

(1) There is, I believe, no evidence to suggest that Hitler planned to invade Britain independently of the British declaration of war in 1939. The object of his pre-war foreign policy was expansion in central and eastern Europe. Further, in 1940, there is evidence that Britain could have come to terms with Germany (Hitler's terms, of course) and that these would not have involved occupation. These facts have no bearing on the question as to whether Britain's declaration of war was justified. They do bear, however, on whether that war was, strictly speaking, one of national defence as it was, say, Poland.

(2) Mr Minogue states (to ridicule) one of the arguments put forward by the Campaign for Nuclear Disarmament. There were two other important ones: (a) that in a nuclear war a Britain with nuclear weapons and nuclear bases would be a priority target and that, in view of the geographical size of the United Kingdom, this involved an appalling risk of annihilation; (b) that it was morally wrong not only to use, but also to threaten to use nuclear weapons—a view sustained with considerable cogency by Catholic academics of the calibre of Peter Geach and Elizabeth Anscombe. The argument which Mr Minogue ridicules has to be seen in the context of the dangers (still with us) of nuclear proliferation. Mr Minogue may have no sympathy with the CND but that does not entitle him to pretend that their arguments were simpler than was in fact the case.

(3) A weapon does not become a "scrap" because, like a corroded live extinguisher, it will no longer work, but because it has been superseded by a more sophisticated weapon that has to be "scrapped" may be in excellent working order. Yours faithfully, MALCOLM PITTOCK, St Peter's Street, Manchester.

### NELP cuts

from Vivienne Parfitt

Sir—I would like to know the basis of Dr Brosnan's claim (THES, July 4) that the Association of Teachers in Technical Institutions document on staffing cuts, North East London Polytechnic is a "typical international Socialist plot". The document was researched by a working party elected by the branch meeting of whose members are mostly not international Socialists. It is interesting that the fiercest criticism offered of the document is that it is "partial" but no details of the nature of the particular are offered.

I am also rather puzzled by Dr Brosnan's claim not to have seen the document before, as he commented to me, and another ATL member on this document, during the refreshment break of the same academic board at which it was distributed on May 21.

Yours sincerely, VIVIENNE PARFITT, ATL Member, North East London Polytechnic.

### Annan

from Mr Clifford Jeans

Sir—My answer to the letter from Lord Annan (THES, July 4) is: Thank God that a respected voice of influence has at last been heard. Yours faithfully, CLIFFORD JEANS, Department of Business Studies,



A conference held at Royal Holloway College from July 4-6, 1975, organized by the National Book League.

Higher education can no longer afford the anarchy of lecturers prescribing books for students without notifying booksellers and librarians, according to one of the organizers of last week's conference on undergraduates and books. Equally, publishers ought to come clean with booksellers and librarians on the means they use to get their books recommended.

At the conference over 250 representatives of publishers, booksellers, library staff, academics and students came together to discuss the organization of a new system of communication, under the auspices of the National Book League.

## To some, other points of view came as revelations

A high level inquiry should be set up into the problems of academic publishing and their implications for teaching and research in higher education, it was agreed.

The resolution was put by Professor William Twining, of the school of law at Warwick University, on behalf of the Society of Public Teachers of Law Working Party of the conference. He urged the sponsors of the conference to press for such an inquiry in view of the price of academic publishing in higher education.

It was agreed that the sponsoring committee of the conference, which included the National Book League, the Association of University Teachers, the Booksellers' Association of Great Britain and Ireland, the Council of Polytechnic Librarians, the Library Association, the National Union of Students, the Publishers' Association and the Standing Conference of National and University Libraries, should be kept in being to consider this and other recommendations made by working groups, and take action on them.

The conference chairmen, Mr Marilyn Goff, head of the National Book League, emphasized that the theme of the conference should be "interdependence" and many of the 250 participants said it was the first time they had heard the point of view of some other groups. One lecturer briefly admitted that she had not been aware until the conference of the need even to communicate with the bookshop. She would now endeavour to pass this knowledge on, she said.

Speakers included Dr Peter Mann, reader in sociology at Sheffield University, Mr Norman Higham, librarian of Bristol University, and chairman of the university college and research section of the Library Association, Mr Brian Southern, editorial director of Routledge and Kegan Paul, Mr Robert Clow, managing director of John Smith Booksellers, Glasgow, and Sir Frederick Dalton, chairman of the University Grants Committee.

Summing up the recommendations of the working groups, Professor John Jepson, of the Courtnall Institute of Biochemistry at Middlesex Hospital School, said that the problems fell chiefly into three areas. They were: university courses and the interaction of teachers, books and undergraduates; the relationship between teachers, publishers and booksellers; and the variety and type of publications which might arise through choice or necessity from the current situation.

The attitude of lecturers to books in higher education was fundamental to the whole problem. Mr Gordon Graham, of Batterworth, said in presiding his group's conclusions:

"The attitude of lecturers to books in higher education was fundamental to the whole problem. Mr Gordon Graham, of Batterworth, said in presiding his group's conclusions:

Amid the Gothic splendour of the Royal Holloway College, Egham, the tensions and different interests which divide the various groups were worked out in discussions and informal social mixing.

From the publishers' side came all the signs of botching down the latches for several years of commercial storms, heavily reduced publishing schedules and the squeeze of matching cash flows and costs. But they remained cheerful and kept up the light-hearted banter with their traditional foes—the booksellers.

The librarians were flexing their muscles. They still consider themselves misunderstood by their colleagues

in university and college academic staffs, but realize their key role in the future.

The booksellers awaited their problems and expressed their uneasiness about too much attention being paid to special groups. Mr John Welch, managing director of Heffers in Cambridge, said they did not sell books in institutions or to students not to people.

The students wanted higher grants. The academics hung their heads in shame at the charges levelled by booksellers, librarians and publishers alike at their tardiness, their avarice when it came to free copies of books and their insouciance about supply.

## Publishers have lost their spirit of adventure

The middle section of the conference featured speakers representing three of the main interest groups involved in university books, the students, publishers and booksellers.

One of the key themes was struck by Mr Brian Southern, representing the publishers, when he described likely developments in the book market in coming years.

"The freedom of a lecturer to teach, he said, was ultimately based on his having the literature readily available. Economic problems were likely to weed out up to half all the new books published by 1976 and this would strike directly at the lecturer's freedom. The quality of university and college education was likely to be diminished by the loss of the variety and choice of books.

Mr Southern, who acts as editorial director for Routledge and Kegan Paul but has taught at Westfield College, London University, emphasized he was making no plea for publishing to be some kind of social service. It was a commercial activity and publishers had to weather the storms of inflation and cash-flow drought through their own good management.

Few publishers saw the solution to their difficulties in state aid, although grants should be raised to a level which would allow students to buy the full complement of books they needed.

Mr Southern described how as an editor for Routledge he had to keep up with manifold changes in education: in numbers, institutions and subjects. In recent years publishing had had to take account of the new polytechnic degrees, the Open University "revolution" and the new philosophies of teacher training.

But this picture of "lively vividness" in education was flawed, he said. It was a minor tragedy that in 1975, publishers could no longer respond to new academic developments. Because higher education was no longer expanding the mood of optimism had gone. Publishers had lost their spirit of adventure as each book for a limited and static market became much more of a commercial gamble.

There was discussion in the discussion that followed Mr Southern's talk. Some of the booksellers and some young publishers felt that in the "boom" years of academic publishing in the late 1960s there had been an unwarranted proliferation of titles.

Mr Robert Clow, managing director of John Smith Booksellers Ltd, Glasgow, about the kind of issues facing the booksellers, also heard one of the clearest expressions of differences between the groups present. Several members of the college and university booksellers group of the Booksellers' Association complained that publishers were too in standing out books that had been ordered, often bypassed the booksellers by dealing direct with the individual academic, and in some ways did not make their lives easier.

Mr Clow talked of "errors in communication."

But his main theme was the improvement of communication between the academic who recommended books to students and the bookseller who faced the student often with little or no warning that a book had been put on a reading list and so would be in great demand.

The academics present pleaded guilty to the charges and agreed with Mr Clow's system, operating from the university bookshop run by his company as St Andrews, of sending out "brutally worded" reminders to academics who had not notified the shop of their lists.

In the discussion following Mr Clow's talk several booksellers discounted the commonly held view that prices had put students off buying books. Mr Clow said there seemed to be little resistance to price increases; if the book was set then the students would buy it.

He introduced a recent circular from the Booksellers' Association to academics emphasizing the value of close cooperation between all concerned with students and books. It said that many sales were permanently lost through bad communication because teaching staff simply did not tell booksellers what was wanted yet expected students to be able to buy books as soon as they were recommended.

Students seemed to be largely passive agents in all this. However, on their behalf, Mr John Kirk, from Edinburgh University, argued that the whole system of book distribution ought to be changed in order to cut down delays in getting books to the shops. Publishers said his idea for regional distribution centres was impracticable.

The students had the opportunity to make their interests known in the following session, chaired by Mr John Randall, retiring president of the National Union of Students.

Mr Randall spoke of the financial plight of students. He said one bookseller had asked him why, since the bulk of their front went on rent with little left for books, they refused to pay rent rises. He replied that they had refused and vice-chancellors were taking time to court for it.

In his conclusion Mr Randall interjected a warning against "rogue" rapid reading firms who seduced students near their final examinations who were eager to acquire in a short time all the knowledge they missed during three years. Some of these firms charged high fees and left the student utterly confused and unable to read normally let alone at high speed.

During the day discussion had focused on a number of topics including the state of second hand book sales. The publishers regretted lost revenue but favoured any mechanism that encouraged book-reading and use in the long run. Even the booksellers did not seem upset at student enterprise in this field.

Mr Clow talked of "errors in communication."

Frances Gibb

David Walker





The whole point is really that university education is based on an intricate relationship between different forms of instruction. In addition to the verbal communication of the lecture and the seminar and tutorial, the written communication of the book is

going on to do better. He needs quite a lot of guidance. I suppose some of you have today may be thinking back to your day at Oxford or Cambridge when you had your weekly meetings with your tutors—and I think you think of yourselves as being in a position to lead me. I shall certainly not

Now then, how come this situation? I think there are two explanations. First, there are doing subjects where only very restricted use

efficiency, use of the library would be improved, and I am certain that students would see not only the desirability of buying books but would even get to the stage where they actually wanted to buy books.



problem: the bookseller is the lion who in  
our opening picture of the operating system  
supplies in good time the books that we  
order in good time. Ha is the man whose  
shelves are stocked with students' texts when  
they are doing their shopping. Ha is also the

In order to control availability we must monitor our operations. We must use the reservation system to know when more coplas are required and we must check "book per-

here today, but you are all so good that we do not like to exclude any of you from our custom. All of you, nevertheless, take time to obtain books from publishers, and sometimes you take longer than others, and all of you

Norman Highon is the librarian, University of Bristol, and chairman of the university

Norman Highon is the librarian, University of Bristol, and chairman of the university

Dr Mann is a reader in sociology, Univer



# NOTICE BOARD

## Chairs

Mr D. J. Clifford, director of the Centre for Latin American Linguistic Studies, University of St Andrews, has been appointed to a personal chair in Spanish from October 1.

Dr J. B. Lawson, reader in the department of geology, University of St Andrews, has been promoted to a personal chair in petrology from October 1.

Mr R. J. Adam, senior lecturer in Social History, University of St Andrews, has been promoted to a personal chair from October 1.

Dr P. B. Becker, director of Industrial Engineering Unit, School of Electronic Engineering, University College of North Wales, has been promoted to the newly established chair of industrial electronics within the school.

On his retirement from the Royal College of Art, Sir Miles Black has been appointed emeritus professor of industrial design and has also been reappointed.

## Awards

The Clarendon-Simon Memorial Lectureship 1975/76 has been awarded to Professor F. R. S. Aldous Salton, professor of theoretical physics at Imperial College, London.

Royal Society Commonwealth Foundation Bursaries: Dr C. B. S. Rainey, Department of Horticulture, Balmuccia (Italy) University, India; Dr A. N. Savitry, Department of Microbiology, Jawahar Education Centre, Bangalore, India; Dr J. L. Wolcott, Department of Chemistry, University of Guyana.

Royal Society Nuffield Foundation Bursaries: Dr S. S. Bhattacharya, Department of Botany, University of Delhi, India; A. M. Ramus, Department of Botany, Rajshahi University, Bangladesh; Professor C. F. Farquhar, Department of Civil Engineering, University of Waterloo, Canada; Professor B. G. Firkin.

## Honorary degrees

**Stenbelyde**

The following have been awarded honorary degrees:

DSC: Sir Alan Howard Collett, Master of Jesus College, Cambridge University; Professor Ernst Otto Fischer, professor and head of the Institute of Chemical Institute of the Technical University of Munich; Professor Douglas S. Jones, Ivory Professor of Mathematics, Dundee University; Professor Basil Norton, Director-General of the Meteorological Office.

pointed as chairman of the Unesco Commission on the Development of the United Kingdom Commission.

Dr Colin Looney, reader in the sociology of education at Sussex University, has been appointed in the joint post of research and development consultant to the Schools Council (for five years) and professor of education at Sussex University from September 1.

Professor Jack Wrigley, part-time director of studies and research adviser to the Schools Council is returning to Reading University as professor of education from September 1.

Professor John Lyons, professor of general linguistics, University of Edinburgh, has been appointed to the newly established chair of linguistics, Sussex University.

Mr Norbert Lynton, formerly director of exhibitions and deputy of the art department, Arts Council of Great Britain, has been appointed in the chair of history and theory of art at Sussex University from October 1. He will succeed Professor Quentin Bell, who is retiring.

Department of medicine, Monash University Medical School, Melbourne, Australia: Dr C. G. Freeman, department of chemistry, University of Canterbury, New Zealand; Dr R. J. Gilkes, department of soil science and plant nutrition, University of Western Australia; Dr R. D. Graham, department of agronomy, Waikato Agricultural Research Institute, South Australia; Dr K. I. Hammad, department of chemistry, University of Suez, Egypt; Dr B. R. Henry, department of chemistry, University of Manitoba, Canada; Dr J. Kulkarni, department of microbiology, Jawahar Education Centre, Bangalore, India; Dr J. L. Wolcott, department of chemistry, University of Guyana.

Dr A. Miller, division of Plant Industry, Canberra, Australia; Dr H. K. Tullidge, department of botany, Makerere University, Uganda; Dr J. Temple, department of geology, Black College, University of London; Dr J. Warren Wilson, Glasshouse Crops Research Institute, Littlehampton, Sussex.

L.D. Sir William Stevenson Gray, Lord Provost of Glasgow; Tan Sri Hamzah Sendut, vice-chancellor of the University of Malaya; Sir John Maxwell Stewart, chairman of Holt-Terrington Ltd.

**Edinburgh**

MD: Professor G. F. Marrian, professor of chemistry at the University of Edinburgh.

**Winwick**

DLit: Mr B. Blitton, Mr M. Cowley, Professor J. R. N. Stone.

DSc: Professor K. L. Kornberg, MA: Mr G. Hodgekinson.

## Appointments

### Universities

**Oxford**

Visiting Professor: Rudolph A. Marcus (theoretical chemistry); Gerald Avery (Wainwright research fellow); Mrs D. V. Kirkbride (leakback).

### Salford

Lecturers: E. C. Dangerfield (business and administration); I. M. Richards, Dr G. L. Anderson (economics and geography).

### Warwick

Associate professors: Mr D. J. Enright (English); Mr R. Thompson (Molecular Science); Visiting senior lecturer: Professor J. R. Conlin (Centre for the Study of Social History). Senior lecturers: Dr N. J. Dimmock (biological sciences); Mr A. R. Roe (economics); Dr W. W. Robinson and Dr M. J. A. Smith (history); Dr D. Mervin (physics); Dr W. E. Paterson (politics).

### General

Design Council: Mr David Barnett has been appointed to the post of head of industrial design. He succeeds Mr Don Johnston, who has retired.

## Recent publications

A Guide to Study by Edgar Baker is the latest booklet from the British Association for Commercial and Industrial Education. It summarises for the prospective and present student the main addresses for an efficient method of study. Available from the British Association for Commercial and Industrial Education, 16 Park Crescent, London W1A 4AP, 65p members; £1.30 non-members.

**Educational Statistical Yearbook**, Volume 1, Country Tables published by OECD, 2 rue Andre Pascal, 75775 Paris, Cedex 16. The yearbook covers data during the years 1950-1972 on such matters as: enrolment, degrees, diplomas awarded; new entrants to higher education; distribution of population in full-time education by level and sex; data is supplemented with notes on sources and methodology for each member country. (Available from HMSO bookshops, £5.00).

## Forthcoming events

An exhibition based on the book *Uroboros*, by Keith White-Hunt, will be held at the University of Bradford from July 14-20. The exhibition will consist largely of works of graphic art and paintings by David Lett. Further details from Mr K. White-Hunt, c/o The Secretary, School of Studies in Industrial Technology and Management, University of Bradford, Bradford, Yorkshire, BD7 1DP.

Herbert Pootling: Photographer of the Antarctic showing at Kingston upon Thames Art Gallery, Surrey, from July 12-August 12, 1975.

Plaque by Sir Cecil Beaton showing at The Art Gallery, St Helens, Lancashire, from July 5-August 5, 1975.

A documentary film *Broil Nut* will be held on July 31 at 7.00 pm at the Institute of Contemporary Arts, Nash House, The Mall, London SW1. The film shows the plight of poor white and black people in the South African government's attempt to move them into the interior. Fee: 35p public; 25p ICA and Survival International and RAI members.

Jonathan Miller will be the main speaker at the second "Language of Medicine" seminar organized by the School of Languages at the Polytechnic of Central London, 115 New Cavendish Street, London W1, on Tuesday July 15. The purpose of the seminar will be to determine and discuss common ground between research in medicine and experts from the two disciplines of language and medicine. Programme details and enrolment forms from: Rosanna Pockar, The Short Course Unit, Polytechnic of Central London, 35 Marylebone Road, London NW1.

A seminar of medieval medicine, literature and philosophy in Europe will be held at the Polytechnic of Central London, School of Languages, 115 New Cavendish Street, London W1, on Wednesday July 16. Guest speakers at the seminar come from Harvard, the Warburg Institute and the University of Kent. Programme details and enrolment forms from: Rosanna Pockar, The Short Course Unit, Polytechnic of Central London, 35 Marylebone Road, London NW1.

The Institute of Mathematics and its Applications is organizing a symposium on the mathematics of Primary School Education, to be held at Chelsea College, University of London, Manresa Road, London SW3 6LX. Details and application forms: The Secretary and Treasurer, The Institute of Mathematics and its Applications, Matfield House, Warley Square, Southend-on-Sea, Essex S81 2Y.

"Multi-dimensional scaling" a one day conference organized by Dr A. P. M. Cuxin and funded by the SERC will be held on July 22 at the University of Essex. All interested please contact Dr A. P. M. Cuxin, Department of Government, University of Essex, Wivenhoe Park, Colchester CO4 3SQ.

The Centre for Extension Studies at Loughborough University is holding a one week course on simulation and gaming in education from 20-26 July. The course is for teachers of education and will cover the practical aspects of designing, adapting and using simulation exercises and educational games. The course will be held at the Centre for Extension Studies, University of Technology, Loughborough, Leicestershire, LE11 3TU.

"Teaching and Learning in Higher Education" an intensive course organized by the Institute of Education, University of the Pacific, will be held there from September 12 to 19. The numbers will be reduced to 32 from the sciences and 16 from the humanities and social sciences. The course is to present participants with a range of teaching techniques to discuss problems in teaching and learning in higher education. Course Administrator: Professor L. R. A. Education should be made early and fee: £50, non-residential fee: £25. Application should be made early and fee: £50, non-residential fee: £25. Application should be made early and fee: £50, non-residential fee: £25.

"The Role of Education Studies in New Organisational Structures" a conference/workshop organized by the Education and the Association of Teachers in Colleges and Departments of Education (Education section) will be held at Chelsea College, University of London, from September 16-19. The workshop which follows up last year's conference at Colchester is designed to help participants to develop their own education studies during a period of rapid change in higher education. Speakers will include Mrs Joan Skinner, director designate of the Institute of Education, University of London, and Dr John Pearce, Middlesbrough College of Education, Middlesbrough, Cleveland.

**Noticeboard is compiled by Patricia Santinelli and Myrna Monsurat**

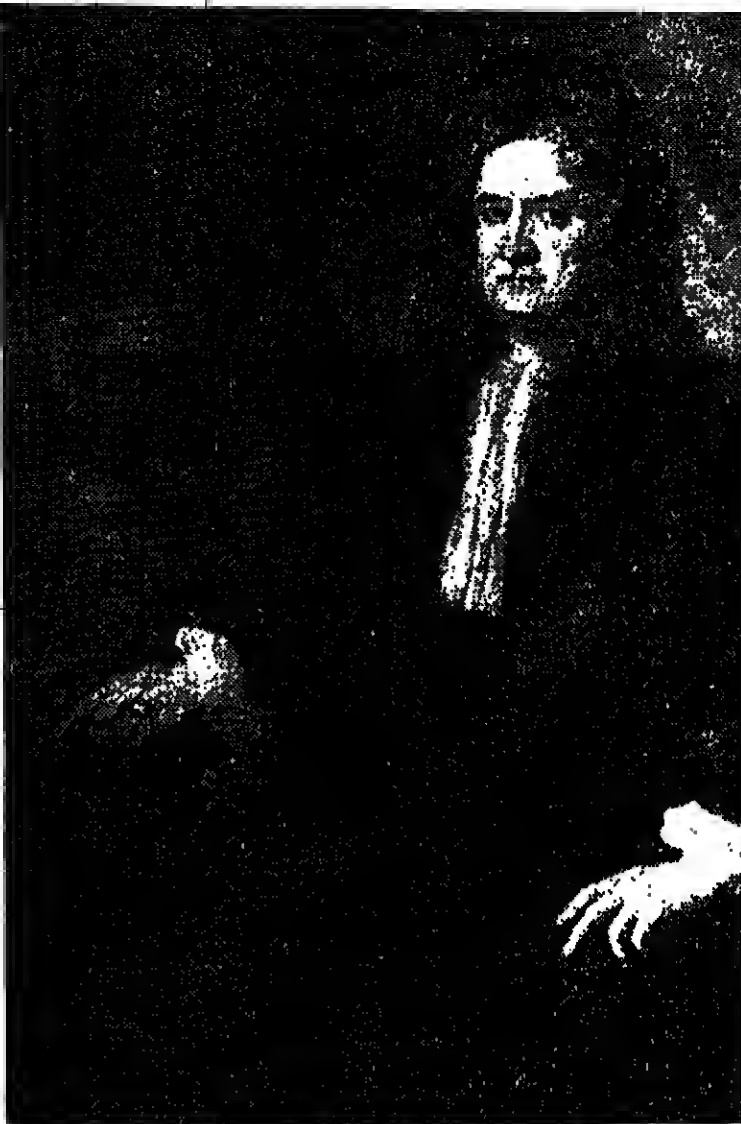
# The original absent-minded academic

The Mathematical Papers of Isaac Newton, Volume VI, 1684-1691, edited by D. T. Whiteside (with the assistance in publication of M. Harkin and A. Prag), Cambridge University Press, £25 ISBN 0 521 08719 8

Newton claimed the Plague years as those in which he most laboured at mathematics, but as Dr Whiteside's wonderful edition proceeds (now three-quarters finished) he makes an overriding claim for 1684-86 as containing the 18 most fruitful months of Newton's life. By 1687 the *Principia* was published; and the later part of the present volume deals with provisional revisions of its first book. The year 1693 was to bring Newton's well-documented mental collapse, leaving his mathematical powers greatly diminished. So this book deals with Newton in his prime, and in its way is complementary to Cohen's *Introduction* (from the same press four years ago). For it omits all details about the *Principia* itself, though it is very full and interesting about the story, both personal and mathematical, of what led up to it. But the two are complementary in another way: for Cohen rightly claims his *Introduction* as the "biography" of a book, so that Newton is but a ghostly figure for him, the necessary "one and only begotten" but no more. In Whiteside's pages Newton himself is to be found and this is delightfully even more the case in the profound mathematical notes than in the personal details.

The principal facts in these seven years can be rehearsed shortly. In the summer of 1684 Newton, at 42, was busy on a number of mathematical and chemical projects. In August came Halley's visit, bringing with it what amounted to an open challenge from Wren to explain the planetary orbits. It was more than five years since Newton, in correspondence with Hooke, had made some attempt at dynamics. Hooke, indeed, says (in a letter of January 6, 1679/80) "But my supposition is that the Attraction always is, in a duplicate proportion to the Distance from the Center Reciprocal...". The unwary might see bare an anticipation of Newtonian gravitation; but so, for Hooke is writing in a strictly Keplerian context in which the inverse square law serves only to prescribe the velocity as varying inversely with the distance which "effectively blocks the way to further theoretical advance" but the question had been put to Newton; and was reiterated eleven days later by Hooke in more explicit form: "Does the Inverse square law lead to an elliptic orbit? The working by which Newton answered this question to his own satisfaction has not survived."

But he told Halley in 1686 that Hooke's "correcting my Spical Occasion" was "Theorem by which I afterwards examined y<sup>e</sup> Ellipse, yet am I not beholden to him for any light into y<sup>e</sup> business but only for y<sup>e</sup> diversion he gave me from my other studies to think on these things and for his dogmaticalness in writing as if he had found y<sup>e</sup> motion in y<sup>e</sup> Ellipse, which I found it was to be done." Now the interest was renewed and the result was first, as Newton says "upon your request I sought for y<sup>e</sup> paper and re-finding it did it again and reduced it into y<sup>e</sup> Propositions showed you by Mr. Hooke." So we have the story of the several successful pieces, which were ultimately to evolve into the *Principia* of 1687. Pages carried the first tract to London in November. Halley transcribed the manuscript, gave it to Newton to be corrected, and it was already hard at work



A portrait of Isaac Newton painted in 1703 when he was 61.

In the same year that the *Principia* appeared, James II required the Vice-Chancellor to admit a Benedictine monk as MA without the oath of supremacy and allegiance. Newton, more disturbed at the cynical flouting of statutes than by the more obvious implications, was a member of the delegation whose appeal before the Ecclesiastical Commission was rejected. "Go your way and sin no more, last a worse thing come upon you," by Judge Jeffreys. When the glorious "Glorious Revolution" brought a change, Newton was elected as one of the two university members to the Convention Parliament, which was not dissolved till February 1690. The taste for political life never left him; within six years he was to leave Cambridge and spend his remaining 30 years in London.

We have some personal details of the man at this time. His secretary says "I never knew him take any Recreation or Pastime... thinking all Hours lost, y<sup>e</sup> was not spent in his Studies. He rarely went to dine in y<sup>e</sup> Hall unless upon some Publick Daye... At some seldom Times when he designed to dine in y<sup>e</sup> Hall he would turn to y<sup>e</sup> left hand, and go out into y<sup>e</sup> street, where making a Stop, when he found his mistake, would hastily turn back and then sometimes instead of going into y<sup>e</sup> Hall, would return to his Chamber again." (Dr Whiteside is a perfect guide here; not only to the mathematics but to explain how the staircase from Newton's rooms would have required him to proceed straight across the Great Court to Hall, whereas he turned out of the Gate. Not that he was free of all superstitions. A young man who visited him in Francis Wigan, a chemist, "in whose company he took much delight and pleasure" until (according to Conduitt) "he told a loose story about a Nun and then St. I left off all confidence with him."

But we see Newton much more clearly from having before us the various versions of De Motu, that is, Newton's autograph version of the lost 1684 tract, a fair copy of which Page carried to London, and the two successive versions of its 1685 revision which he deposited in the university library ostensibly as the last of his lecture notes, only to be ignored the innate force

of the most part, with missing figures carefully reconstructed, and with Whiteside's detailed and always highly revealing notes. There is scarcely a page that will not be highly valued by historians of mathematics. But the non-specialist will also be delighted by the insights that it gives, and perhaps most of all by the first De Motu. This was published ten years ago by Haveler but we are now able, through Whiteside's meticulous editing, to see in the "much corrected" and "overwritten" copy two layers of composition—a first one agreeing closely with the lost fair copy and later amendments converting it essentially into the augmented "on the motion of spherical bodies in fluids."

This first layer acts as a near as we can hope to be to Newton's thought around 1684-85. It begins its discussion, on the motion of bodies in an orbit, with definitions: A centripetal force (the first occurrence of the term, as opposed to Huygens' *vis centrifuga*) is that by which a body is impelled or attracted towards a centre; the force of, or innate in, a body is that by which it endeavours to persist in its rectilinear motion. A later addition then defines resistance as the property of a regularly impeding medium; this was inserted when Newton decided to add propositions about motion in a medium resisting proportional to the velocity. Inertia then is still (or again) a force in Newton's thought—on a par with and to be compounded with centripetal attraction—a judgment to which ironically he returned in 1915 with the difference that then it was decided to treat matter as opposed forces. There follow four hypotheses. The first, to do with the absence of resistance, is cast aside the later propositions on resisted motion. The second returns to the idea of inertia: "Every body by its innate force alone proceeds uniformly into infinity following a straight line unless it be impeded by something from without," which becomes essentially the modern law of inertia, which we now know Newton derived from Descartes' law, less given in his 1644 *Principia Philosophiae*, only if we ignore the innate force.

It goes without saying that this volume carries on the impressive tradition of the preceding five, and the editor is most ably supported by the printers, to give a book of both intellectual and visual beauty. At its price (it is a bargain) it is likely to be for libraries alone; but none of them should be without it.

naturally persevere in y<sup>e</sup> state in which it is unless it be interrupted by some external cause, hence... A body once moved will always keep the same clarity, quantity, and determination of its motion... so without vis inertia / Hypothesis three is another late addition and allows forces to be applied successively or simultaneously (so succeeding the parallelogram law). As to hypothesis four only "Hyp 4" is present as a late marginal addition, but the fair copy supplies an assumption about a valid approximation in initial motion. After two mathematical lemmas comes theorem 1: All orbiting bodies describe, by radii drawn to their centre of force, areas proportional to the times, with the same beautiful proof as in *Principia* Book 1, Proposition 1. This proof is not lacking in subtle difficulties; as Whiteside ably shows; but its structure serves to answer the mystery above. The *vis inertia* comes in a par with the centripetal force to preserve the concavity of the orbit is regarded as the superposition of a rectilinear motion along the tangent under the innate force and a motion towards the centre under the centripetal force. By the early spring of 1685, indeed, Newton had moved to the intermediate position, for definition 3 he wrote "Force innate in matter is the power of resisting... nor does it differ at all from the inertia of its mass other than in the manner of our conceiving it."

After a theorem on circular orbits there comes the surprising geometrical statement equivalent to the now-standard expression for a central force in terms of polar angle and reciprocal of radius vector. (This appeared in *Principia* Book I, Proposition 6, but there it was also used in the second edition) to deduce a corollary [Proposition 7] about a circle under two alternative centres of force. All the orbit properties would follow from this—but hardly fit Newton's geometrical formulation. Still it serves to give the law of force for the only two simple cases of the elliptical orbit (centred or focus as centre of force), as in *Principia* Book I, Propositions 10.11. The *Principia*, however, gives in the second edition an extremely subtle alternative proof for the inverse square law by applying the new Proposition 7, not to a circle but to a curve of the same curvature. This required an insight which Newton, if indeed he had it in 1685, would have been wise not to require from his readers! But in fact it seems to date from the early 1690s and forms part of a general ambitious programme for recasting the first edition, a programme of which circumstances prevented the full completion.

There is much more besides of great interest about the laws of motion and their applications but this does not exhaust the treasures to be found here. For example the geometrical "analysis" of the quadrature of the circle is possible to be found proved by a highly ingenious argument, and the editor traces the later history of this result—mostly accepted, sometimes rejected—to its "careful" acceptance by Rouse Ball in 1914 before giving us an unimpeachable counter-example. Then there is printed, for the first time, Newton's first attempt at a dynamical theory of optical refraction, from a paper in private hands, and dating from the 1680s. Again in late 1685, Newton was on his way to finding the solid of least resistance in a uniform fluid, and so, essentially in the calculus of variations (over 20 pages here). Finally, not to tell a complete success story, some of the problems in the motion of the moon show where Newton more than met his match. Every reader of the *Principia* will be struck by the myopic pursuit of dogmatic trails and a near-total lack of success. If we believe Conduitt, "St. I said it broke my rest so often I will think of it no more."

It goes without saying that this volume carries on the impressive tradition of the preceding five, and the editor is most ably supported by the printers, to give a book of both intellectual and visual beauty. At its price (it is a bargain) it is likely to be for libraries alone; but none of them should be without it.

**Complexes and First-Row Transition Elements** by D. A. Nicholls, Macmillan, £3.95 ISBN 333 17088 1

**Complexes and First-Row Transition Elements** by David Nicholls is the first volume of a two-part series dealing with the chemistry of the transition elements. The companion volume, which will be published later this year, will discuss the chemistries of the heavier transition elements, the lanthanides and actinides. Dr Nicholls's volume deals with material which is more commonly taught to undergraduates and therefore will be competing directly with textbooks which give a comprehensive account of inorganic chemistry. To succeed against such strong competition a new textbook devoted exclusively to first-row transition elements must be either exceptionally well written or very inexpensive. Unfortunately, this volume does not satisfy either of these requirements. In fact, it presents only a conventional description of modern transition metal chemistry.

This book has two major sections. The first deals with the basic features and theoretical concepts of coordination chemistry and the second discusses the detailed chemistries of the first-row transition elements. However, the two sections have not been effectively welded together and consequently theoretical concepts introduced in the preliminary chapters have not been effectively used to illuminate and unify the wealth of experimental facts which have accumulated in recent years for these elements. This is a common criticism of modern textbooks of transition metal chemistry and arises primarily from a misunderstanding of the strengths and limitations of modern ligand field theory. Simple thermodynamic arguments are often for more powerful than ligand field theory arguments for explaining the stabilities and occurrence of transition metal complexes. This book, unfortunately, under-utilizes the available basic thermodynamic and electrochemical data for metals and their compounds.

Following a brief historical introduction Dr Nicholls introduces the student to many fundamental aspects of coordination and complex chemistry. Thus the second chapter discusses the classification of transition metal complexes as Lewis acids and bases respectively and outlines the *hard and soft acid-base* concept. He fails, however, to exploit this pedagogically useful concept in a subsequent chapter dealing with the pre-precipitation and stabilities of metal complexes. This absence of logical development is also demonstrated in a later chapter which discusses the geometries of transition metal coordination compounds. After pointing out the deficiencies of the *valence shell electron pair repulsion* approach when applied to most transition metal complexes, Dr Nicholls states: "Transition metal complexes having other configurations have not a symmetrical distribution of d electrons and we must use ligand field theory (chapter five) to comprehend the resulting stereochemistries." Chapter five fails to fulfil this promise and the student is therefore left with an incomplete picture of the factors which influence the observed geometries of many simple transition metal coordination compounds.

The book does have one extremely useful feature. Dr Nicholls has given a concise and clearly written account of the electronic and magnetic properties of the lighter transition metal complexes. Second and third year students frequently have problems with these topics because of basic conceptual difficulties and an unfamiliarity with the terminology. Some of these difficulties, in my opinion, are removed by Dr Nicholls's very readable exposition of these topics. He has also organized a most useful chapter on general preparative methods. The second half of the book gives a detailed, to some extent dated account of the chemistries of the first-row transition elements. The descriptive chemistry is on the whole accurate and representative, but lacks the depth and breadth of the related chapters in Cotton and Wilkinson's *Chemistry of the Elements*.







## BOOKS

## Of the Victorians and yet apart from them

Thomas Hardy: The Near Wessex Edition: 8 volumes  
 Edited by P. N. Furbank  
 Macmillan, hardback £3.50, paperback 50p and 65p each volume

The Literary Notes of Thomas Hardy: 2 volumes  
 Edited by L. A. Birkbeck  
 Acta Universitatis Gothoburgensis, Göteborg, Sweden

Young Thomas Hardy  
 by Robert Gittings  
 Heinemann, £4.95  
 ISBN 0 435 18363 X

Perhaps with the imminent expiry of Hardy copyright in mind, Macmillan have recently produced a selection of the poems (another reviewed in these columns), and have now issued the first eight of the *Near Wessex Edition* of Hardy's novels. The absence of adequate edited and annotated texts of Hardy has been one of the major gaps in the study of English literature where it is sometimes alleged that "everything has been done". Further volumes of fiction, poetry and miscellaneous writings are to follow.

The *Near Wessex* is a dignified, handsomely printed, somewhat sombre production which all serious students of Hardy and all libraries will wish to have. In anything of

this kind, the annotations have a major importance, and the notes are thorough, terse and lucid, with few lapses into banality. Hardy's fiction calls for annotation because of its wide if somewhat idiosyncratic range of cultural references, combined with a rich fund of local, antiquarian and dialect knowledge.

It is a pity that authorship of these notes is not explicitly attributed in several cases, and we have also to rely on guesswork for the authorship of some of the other editorial material. Each volume has a general note on the text and some notes on the text and some on Hardy's revisions, for example; it would have been better had there been more of this, and more uniformly.

Hardy's own prefaces are reprinted, and are essential reading. In certain wider respects, the annotations could have been better: Hardy's relations, for example, with such diverse matters as evolutionary and philosophical thought in his time, serial and magazine publication, and agricultural change, "reformist" thinking, and the folklore and antiquarian movements of the late nineteenth century recurrently emerge, but not into a full and focused view. This might have been

met by some supplementary essays. Much fuller bibliographical information would also be welcome: the innumerable explanations of dialect terms in the notes, for example, are most valuable, but it would be a welcome thing to know their source.

The introductions to each novel are again valuable, and collectively they amount to a quite significant body of new Hardy criticism. They rather fail to maintain a sense throughout of Hardy's extraordinary freshness and immediacy, his profound but minimalist sensuousness, the unalloyed whimsical strength of his apprehensions. It is always like a douché of spring water to turn across from commentary to text, but perhaps that must and should be so with a major writer. Besides this, what I might call the enigma of Hardy, repeatedly approached is never quite fixed at least in general terms.

Hardy stands in a substantial continuity with mid-Victorian fiction like that of George Eliot, but also much apart from it; and this awareness was itself complex—a combination of a more fluid and tentative sensibility operating at the level of the narrator's art, of (in more contexts than one) an altogether more radical, activist and challenging social sense, and at the same time of a

deeply recessive, even retrogressive inwardness, the backward-looking traditionalism of an older and largely vanished world: the result, complexity and enigma. The various contributors to this edition converge upon that enigma, but the worst of an authoritative general introduction to the novels is much felt. Either John Bayley or Barbara Hardy (who write outstanding pieces on *Far From the Madding Crowd* and *The Trumpet Major* respectively) could have done such a piece well. In the absence of it, one is inclined to say that the individual criticisms are somewhat under-researched: Hardy's varied involvements in many of the movements of his time does not quite come out in its explicitness and detail. All in all, this is a welcome and valuable but somewhat inamiable edition.

The point about "under-researched" is rather confirmed by Björk's *Literary Notes on Thomas Hardy*. This is a meticulously thorough and scholarly edition of four of Hardy's own notebooks which escaped the extensive destruction of personal papers that he himself perpetrated late in life. The full dividend of the work will accrue only slowly, as other scholars and critics browse in and ponder the entries, and sense, little by

little, the filaments that these establish to and from Hardy's reading, thinking and writing. At once these volumes, mostly from the 1870s and 1880s, show Hardy's extensive and intricate contacts with new intellectual publications, as also with the world of current periodical writing and controversy. Mr Gittings's *Young Thomas Hardy* is not an easy book to read. To do so at any length, one has to give up, one other paper, the points of valuable new insight that it offers us for Hardy, and to do so briefly may conceal its quite outstanding merit. Really Mr Gittings's talent for biography is astonishing. His sureness of touch over what Mr Björk calls "trivial useful knowledge", the terse, terse, terse, and frequently asked excellence of the writing, give a splendidly rich, suggestive and at the same time controlled picture of the complexity of the young Hardy and of the difficulty of the struggle for existence in his primitive literary society. Sometimes (as on the elusive figure of "R.A.", perhaps the Sme Brithhead of his twenty years later) Mr Gittings moves with the economy and precision of a chessmaster. This is a major biography.

John Holloway

## Yen-yen, phy, red-lamp, lid-poppers et al

Harper's English-French Dictionary of Slang and Colloquialisms  
 by G. A. Marks and C. B. Johnson  
 Harp, £7.25  
 ISBN 0 245 52567 0

It is five years since the *Harper's English-French Dictionary of Slang and Colloquialisms* appeared and the difference in price between that and the English-French volume just published is a sad commentary on the cost of publishing today. Where the previous volume, in almost exactly the same format, cost £2.50, the new one, which is a mere 44 pages longer, costs £7.25. So far there does not appear to be a slang word for "inflation", either in French or English; perhaps it is too serious a matter to be treated colloquially.

Quite apart from cost, however, the coverage of a dictionary of slang must always be coloured to some extent by subjective influences and by the personal experience of the compilers or the availability of informants. In French the treatment of slang has historically been heavily influenced by the prominence traditionally given to *argot*, as the language of thieves and vagabonds, as well as of convicts and prostitutes, following the lead given by Vidocq in his early account of such matters.

In English, although the same elements have always been present and chiefly (and not coincidentally) fulfilled the same purposes as the *argot* of the milieu in France, it is nevertheless possible to make a good case for the contention that slang and colloquialisms here have a much broader social base, historically, than in France. At the purely impressionistic level one has the feeling that a good deal of English slang is of middle-class origin, in fact that it is the result of an unnoted spread from elite origins such as the public schools, the officers' mess, or the ward room, rather than from the argot of the mess or the lower deck. These latter groupings seem to mix up very well on the whole with traditional forms of colloquialism of obscenity, leaving the process of originating new ones to their literary superiors. This is not intended as a slur, as

but also as a comment on the fact that this dictionary gives an impression of following a little too closely the French tradition in regarding slang as the prerogative of certain subcultures of and for the underworld, and the smaller fringes at that. Although slang is undoubtedly one of the distinctive signs of such subcultures, and although many of the expressions and terms so coined do gain acceptance to the idiom of society in general, it is nevertheless also true that the generation of slang has become a normal activity of almost any kind of close-knit human grouping, from golf clubs to oil-rig crews, in the Anglo-Saxon world.

Obviously not all such colloquialisms find general acceptance, many may indeed only be intended for "in-group" use. It is this choice of groupings from which slang terms are to be taken, quite as much as the choice of the terms themselves, which presents a problem for compilers of dictionaries like this one. As it happens there may be something a little excessive in the prominence given here to the slang of the drug culture, and even perhaps to that of prostitution and sexual aberration, not for any reasons of moral judgment or good taste, since these do not enter into a study of slang, but simply because one wonders how widely current a certain number of these are and how they compare, in terms of general currency, with the slang of other activities. This impression is heightened by the feeling that no term one has ever met, and a large number of these are, are to be found here, while many terms enjoying wide usage in other specialized fields, but still with a large following, receive much less generous treatment. Oddly enough the most widely known slang term of all, for a certain variety of drug use, "blow", is not mentioned. To choose one field rich in slang which comes badly out of this selection, there is the world of sports cars and "motorbikes", where "scabber", "blower", "Xams", "Quackero", and "Japanese Christ-mas Tree" must be known to at least as many people as are "yenny", "lid-popper", "kickman", "poy", and other gems of the drug culture.

Even such a widely used term as "grace", meaning a "yabo in the gutter" (the gutter being the gutter of a motorbike), is not mentioned, though it is a slang term, though it is

more dated uses of the word are also given. However, every compiler of such a dictionary runs the risk of selecting or excluding terms which will not please some omniscient reviewer, and it would be quite unfair and even dishonest to suggest that this is not a very valuable and unique work.

The translation aspect of this dictionary is usually excellent. Slang is always subject to certain fashions and has a taste of its own, but the various attempts to allow plenty of scope for choice. It is the translator's job to decide which of the two possibilities he wishes to use for "punk", for example. One permanent problem, which is unavoidable when translating slang or colloquialisms, is that of the pictorial expression which has no similar parallel in the target language, and there are many examples here. "Red-letter" as in "red-letter day" apparently has nothing more exciting than "four memorable" or "four de fête" while even "red-hot" or "red-lamp" (disfranchisement) has no equivalent in the target language.

Such disappointments can be happily forgotten, however, in the wealth of material to be found here. Just like its companion volume five years ago, this one pulls out all the stops and really gives you the works, and if you want to translate the eye-wash you get in the local rag, then this is for you. Unfortunately it will not help you to explain that you met your girl in the gutter (it would have been a better idea to have a phrase for this), but if you want for a chunky noun first and then call it in at a clip-joint it will still enable you to tell the tale in French.

Quite apart from serving as an indispensable part of the equipment of all visiting French students, this dictionary should become part of the armory of every translator of modern English novels, including those written in the American idiom. Older expressions of P. G. Wodehouse and similar writers have not been entirely replaced (property) in the included. It should be possible, therefore, to make a reasonably good translation of Bertie Wooster's verbal mannerisms, with it just as it should be to translate one of Frankie Howard's scintillating remarks that could certainly not be said of any other English-French dictionary at present available.

Frank Healey

## Heroic Viking adventures

Egils Saga  
 translated and edited by Christine Bell  
 Dent, £4.25  
 ISBN 0 460 10251 6

Egil Skallagrimsson, the principal character in this medieval Icelandic narrative, probably corresponds to closely as any sage hero to the popular image of the Viking. As he stalks about Norway, England and other parts of the Viking world, he shows himself to be a violent, brutal man, ready to kill or maim in return for the slightest insult, eager for glory and gold. It is true that Egil occasionally acts from kindness and friendship, and once appears like a knight in shining armour to save a girl and her family from a rough and importunate suitor, but such episodes are little more than an extension of his Viking adventures.

Yet Egil was not only a Viking warrior. He was also a poet, and his saga contains many of his compositions, both longer poems and occasional verses. Although the saga was not written in its present form until the thirteenth century and Egil himself lived in the tenth, few scholars doubt that most of the poetry attributed to Egil is genuinely his. Unlike much other Icelandic verse of this period, it bears a remarkably personal stamp. Indeed, Egil is one of the few individuals to emerge from the Viking Age, and his famous lament for the death of his son, *Sondorrak*, is the earliest known poem from the Germanic world in which deep personal feelings are allowed to dominate. Egils Saga is not only worth reading for Egil's poetry. The prose narrative is among the finest pieces of

saga writing, and scholars have frequently suggested it was written by Snorri Sturluson, author of *Heimskringla*, the famous history of the Norwegian Kings.

Miss Bell's translation is a fourth English version of Egils Saga to appear, though only one of the other three, by Professor G. J. Jones, is at all recent. The present translation seems to me to be the best, because it is so accurate, and readable as Professor Jones' and more faithful to the original Icelandic than the other two. Miss Bell's version has the added advantage that Egil's verses have been translated by a English poet, John Lucas.

Scaldic poetry is notoriously difficult, some would say impossible, to translate. Apart from being a word-order puzzle, it is full of Icelandic prose and an elaborate system of metaphors known as "kenningar", many of which are based on images from stories and beliefs which are part of a modern reader's experience. Unlike many earlier translators of Old Norse, Lucas has given careful thought to the problems and adopted a consistent approach: to produce a translation which is close to the original in form, sense and tone, though not in the details of scaldic metaphors. This is a great advantage for the reader who is at last able to read Egil's poems as poems, and not as a series of unexplained phrases in the text which accompany the saga.

The volume also contains a brief introduction, notes on the problems of translating both the prose and the verse, maps, a genealogical table, a select bibliography, and place names and is an attractive and useful book.

Michael Barnes

## This week's reviewers

Frank Healey is professor and head of the department of Linguistics and regional studies at the University of Surrey.

Shells Patterson is an honorary research fellow at University College London and is editor of the *Community Relations Commission* journal "New Community".

Frank Healey is professor and head of the department of Linguistics and regional studies at the University of Surrey.

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## Universities

## The British Council

invites applications for the following posts:

## Lecturer in English (Egypt)

Calvo University, Department of English  
 Graduate in English or Modern Languages with TEFL qualification and several years TEFL experience.  
 Salary: £3,385-£4,264 pa, tax free.  
 Benefits: free furnished accommodation; overseas allowance. Two-year contract. 75 AU 59

## Lecturer in English Language (Mongolia)

University of Ulan Bator  
 Graduate with TEFL qualification and relevant teaching experience. Ability to use language laboratory and knowledge of audio-visual techniques and methodology essential. Single male candidates preferred. A knowledge of Russian or Mongolian an advantage.  
 Salary: 850,950 tugriks per month tax free (no exchange rate available), underpinned to be an excellent salary, plus sterling subsidy of £1,274 pa paid in British pounds. Benefits: free accommodation; employer's portion of superannuation. Contract for one academic year. 75 SU 88

## Lector in English (Hungary)

Eotvos Lorand University, Budapest  
 For September 1975  
 Arts graduate from a university in Britain with relevant TEFL experience. Single candidates only, preferably aged 30-36.  
 Salary: 3,800 forints per month minimum, tax free, sufficient for living expenses, plus sterling subsidy of £1,374 pa paid in British pounds.  
 Benefits: free accommodation; medical scheme; employer's portion of superannuation. Ten months contract, renewable. 75 SU 87

Return fares are paid. Local contracts are guaranteed by the British Council.

Please write, briefly stating qualifications and length of appropriate experience; quote relevant references; send for further details and an application form to The British Council (Appointments), 65 Davies Street, London W1Y 2AA.

RICHMOND COLLEGE  
PRINCIPAL

The Chairman of the Board of Governors, Vice-Chancellor Edward Little and W. G. L. D. (St. Andrews and Paris) invite applications for the post of Principal of Richmond College.

Applicants must be graduates of a University in the United Kingdom and have had wide teaching and administrative experience in further or higher education in Britain. Experience of the American educational system would be an advantage.

The Principal is responsible to the Trustees and the Board of Governors for efficient administration and continued development of the College and serves as its principal academic officer. Richmond College is an independent incorporated body in Washington D.C. and derives its degree awarding rights from the Board of Higher Education, Washington D.C. Currently the College has 200 residential students, most of whom are American. In the first, second and third years of degree courses. A further 50 foreign students are engaged in English language and pre-university courses prior to their departure for U.S. universities.

Salary is equivalent to Grade 5 of the Barnham Scale (£6,500 per annum). This appointment will commence as soon as possible.

Applications or requests for more information should be sent by 1st July to the Clerk to the Governors, Richmond College, 111a St. John's Road, Richmond-upon-Thames, Surrey.

NATIONAL COLLEGE OF ART AND DESIGN,  
DUBLIN

The Board of the College invites applications from suitably qualified candidates for the following post:

## LECTURER

IN THE HISTORY  
 AND THEORY OF DESIGN

Applicants should hold a degree in some aspect of history of Art and Design with specialisation in design, the theory of design, and preferably a postgraduate qualification. He or she will have had some teaching experience, and an awareness of, and interest in, the special challenges posed by the art school situation.

The Faculty of History of Art and Design and the Department of Design have been in operation for a short time only, and the successful applicant will be expected to make a considerable contribution to course planning and administration.

Salary within the range £4,492 to £6,294.

Applications and further particulars may be obtained from: The Secretary, National College of Art and Design, Kildare Street, Dublin 2, Ireland.

Completed forms should be returned not later than 31st July.

NATIONAL COLLEGE OF ART AND DESIGN,  
DUBLIN

The Board of the College invites applications from suitably qualified candidates for the following post:

HEAD OF  
FACULTY OF DESIGN

Applicants should hold a degree, or its equivalent, in some area of Design, Architecture, or Engineering, and preferably a postgraduate qualification. He or she will have had some teaching experience, and an awareness of, and interest in, the special challenges posed by the art school situation.

The Faculty of Design is undertaking a considerable expansion of student numbers, and a major programme of course development. The College anticipates a move to new premises within the next three years. The successful applicant will be expected to make a considerable contribution to course planning and administration.

Salary within the range £4,492 to £6,294.

Applications and further particulars may be obtained from: The Secretary, National College of Art & Design, Kildare Street, Dublin 2, Ireland.

Completed forms should be returned not later than 31st July.

LOUGHBOROUGH  
UNIVERSITY OF  
TECHNOLOGY  
PLANNING AND  
DEVELOPMENT  
OFFICER

Applications are invited for the post of Planning and Development Officer in the Estates Office of the University. The successful candidate will be responsible to the Director of Works for all aspects of new building development. Applicants should be qualified architects and preferably should possess some further qualification relevant to University campus planning, as well as appropriate experience.

The successful applicant will advise on space allocation, development and planning and will have overall responsibility for the design and construction of new buildings, as well as being responsible for maintaining the existing buildings and the University Campus Committee. Initially the appointment will be for a period of 12 months.

Salary: £4,700-£5,976 per annum, plus pension. The successful candidate will be expected to make a considerable contribution to the development of the University. The successful candidate will be expected to make a considerable contribution to the development of the University.

Applications, on the official form, and further information available from the undersigned. Completed applications should be lodged with me by not later than Monday, 28th July, 1975.

Central Technical School, J. FALVEY, C.E.C., Moyderwell, Tralee, Co. Kerry, Ireland.

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## Polytechnics continued

## NEWCASTLE UPON TYNE POLYTECHNIC

## Department of Nursing and Welfare Studies

## Principal Lecturer in Social Work

To be responsible for the planning and co-ordination of the Social Work Branch of a proposed CNA Degree in Applied Social Science, jointly submitted by the Departments of Behavioural Studies and Nursing and Welfare Studies, and the development of the academic work of the Social Work Division, particularly in the areas of research and community based practice. Candidates should have good academic qualifications in the field of applied social studies as well as relevant professional experience.

Burnham FE Principal Lecturer Salary Scale: £5,940-£6,642-bac-£7,578 (subject to confirmation).

For further particulars and application forms, returnable by 21st July, 1975, please send stamped addressed foolscap envelope to Stiffing Officer, Newcastle upon Tyne Polytechnic, Ellison Building, Ellison Place, Newcastle upon Tyne, NE1 8ST.

## NORTH STAFFORDSHIRE POLYTECHNIC

## Department of Economics and Business Studies

## Lecturer II and Lecturer I in Law

Applications are invited for these posts from suitably qualified candidates to teach on degree and professional courses. Preference will be given to candidates with business experience.

Salary scale (subject to confirmation) —

Lecturer II: £3,279-£5,493

Lecturer I: £2,469-£4,377

Commencing salary according to qualifications and experience.

Details of benefits available to successful applicants are included in the further particulars. Application forms and further particulars can be obtained from —

Openly Director (Staffing), North Staffordshire Polytechnic, College Road, Stoke-on-Trent ST4 2DE.

## OXFORD POLYTECHNIC

## Department of Catering Management

Applications are invited for the following posts. Duties to begin on 1 January 1976 (or earlier in the case of Principal Lecturers).

Principal Lecturer in Hotel and Catering Operations (£5,001-£6,429)

Principal Lecturer in Food and Beverage Operations (£5,001-£6,429)

Lecturer-Senior Lecturer in Nutrition (£2,670-£5,412)

Further details and application forms from

Head of Department of Catering Management, Oxford Polytechnic, Oxford OX3 0BP.

Closing date for applications 31 July 75.

LONDON

THAMES POLYTECHNIC

LECTURER IN BUSINESS TRAINING ADVISORY

The Thames Polytechnic is seeking a Lecturer in Business Training Advisory to join its staff of experienced lecturers in the field of business training.

Applicants should be graduates with a minimum of five years' experience in business training.

Salary scale: £3,279-£5,493 (subject to confirmation).

For further particulars and application forms, returnable by 21st July 1975, please send stamped addressed foolscap envelope to Stiffing Officer, Thames Polytechnic, 100 Abchurch Lane, London EC4N 3DF.

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## ABERDEEN

## ROBERT GORDON'S INSTITUTE OF TECHNOLOGY

## SCHOOL OF BUSINESS MANAGEMENT STUDIES

## LECTURER IN LAW

## The Robert Gordon's Institute of Technology is seeking a Lecturer in Law to join its staff of experienced lecturers in the field of business management studies.

## Applicants should be graduates with a minimum of five years' experience in business management studies.

## Salary scale: £3,279-£5,493 (subject to confirmation).

## For further particulars and application forms, returnable by 21st July 1975, please send stamped addressed foolscap envelope to Stiffing Officer, Robert Gordon's Institute of Technology, 100 Abchurch Lane, Aberdeen AB9 1PL.

## LEICESTER

## THE POLYTECHNIC

## SCHOOL OF BUILDING SURVEYING AND LAND ECONOMY

## SENIOR LECTURER IN BUILDING SURVEYING

## The Leicester Polytechnic is seeking a Senior Lecturer in Building Surveying to join its staff of experienced lecturers in the field of building surveying and land economy.

## Applicants should be graduates with a minimum of five years' experience in building surveying and land economy.

## Salary scale: £3,279-£5,493 (subject to confirmation).

## For further particulars and application forms, returnable by 21st July 1975, please send stamped addressed foolscap envelope to Stiffing Officer, Leicester Polytechnic, 100 Abchurch Lane, Leicester LE1 0UT.

## LIVERPOOL

## THE POLYTECHNIC

## DEPARTMENT OF SURVEYING BUILDING SURVEYING

## Applications are invited from suitably qualified candidates to teach on degree and professional courses.

## Preference will be given to candidates with business experience.

## Salary scale (subject to confirmation) —

## Lecturer II: £3,279-£5,493

## Lecturer I: £2,469-£4,377

## Commencing salary according to qualifications and experience.

## Details of benefits available to successful applicants are included in the further particulars.

## Application forms and further particulars can be obtained from —

## Openly Director (Staffing), North Staffordshire Polytechnic, College Road, Stoke-on-Trent ST4 2DE.

## MANCHESTER

## MANCHESTER POLYTECHNIC

## FACULTY OF ART AND DESIGN

## DEPARTMENT OF FINE ART

## The Manchester Polytechnic is seeking a Lecturer in Fine Art to join its staff of experienced lecturers in the field of fine art.

## Applicants should be graduates with a minimum of five years' experience in fine art.

## Salary scale: £3,279-£5,493 (subject to confirmation).

## For further particulars and application forms, returnable by 21st July 1975, please send stamped addressed foolscap envelope to Stiffing Officer, Manchester Polytechnic, 100 Abchurch Lane, Manchester M1 2AB.

## NORTH LONDON

## THE POLYTECHNIC

## DEPARTMENT OF SOCIOLOGY

## Applications are invited from suitably qualified candidates to teach on degree and professional courses.

## Preference will be given to candidates with business experience.

## Salary scale (subject to confirmation) —

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## Openly Director (Staffing), North Staffordshire Polytechnic, College Road, Stoke-on-Trent ST4 2DE.

## OXFORD

## OXFORD POLYTECHNIC

## DEPARTMENT OF CATERING MANAGEMENT

## Applications are invited for the following posts. Duties to begin on 1 January 1976 (or earlier in the case of Principal Lecturers).

## Principal Lecturer in Hotel and Catering Operations (£5,001-£6,429)

## Principal Lecturer in Food and Beverage Operations (£5,001-£6,429)

## Lecturer-Senior Lecturer in Nutrition (£2,670-£5,412)

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## Head of Department of Catering Management, Oxford Polytechnic, Oxford OX3 0BP.

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## For further particulars and application forms, returnable by 21st July 1975, please send stamped addressed foolscap envelope to Stiffing Officer, Thames Polytechnic, 100 Abchurch Lane, London EC4N 3DF.

## Fellowships and Studentships

## OXFORD POLYTECHNIC

## Department of Construction

## SRC (Case) Studentship

## Applications are invited from first or upper second class honours graduates, and those expecting to graduate, in Civil/Structural Engineering to investigate practical problem in Structural Engineering related to concrete portal frames.

## The successful candidate will be expected to be registered for a CNA higher degree. The studentship is to be awarded for the period of three years, starting from September 1975, including about six months to be spent by the candidate with an organization specialising in portal frames and related structures.

## Co-operating body for this project. Applications should be sent to the Head of Department of Construction, Oxford Polytechnic, Oxford OX3 0BP.

## Closing date for applications 31 August 1975.

## PLYMOUTH POLYTECHNIC

## S.R.C. RESEARCH STUDENTSHIP in either

## X-RAY CRYSTALLOGRAPHY OR FISH PHYSIOLOGY

## Applications are invited for a postgraduate research studentship in one of the following fields:

## 1. The X-ray crystallographic study of antibiotic materials.

## 2. Blood circulatory system of fish.

## Applicants should expect to obtain a degree with first or upper second class honours in either physics or chemistry for project 1 and in biological subject for project 2.

## Application forms and further particulars may be obtained from The Personnel Officer, Plymouth Polytechnic, Drake Circus, Plymouth PL4 8AA, to be returned by 20th July 1975.

## SOUTHAMPTON

## THE UNIVERSITY

## Applications are invited for a three-year RESEARCH FELLOWSHIP in the field of Education, in the Faculty of Education and Social Sciences. The successful candidate will undertake evaluation of the curriculum of the new Southampton Medical School. The successful candidate will have a higher degree in education and a minimum of five years' experience in educational research.

## Interim salary according to qualifications and experience, up to £5,493 p.a. plus an annual increment of £1,000.

## Applications should be sent to the Personnel Officer, Southampton University, University House, Southampton SO9 4NH.

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## Overseas continued

## LECTURERS

### Institute of Meteorology

### King Abdulaziz University

### Saudi Arabia

The Faculty of Sciences, King Abdulaziz University, Jeddah, Saudi Arabia, has the following vacancies in its Institute of Meteorology, and invites applications from suitably-qualified males.

**Lecturer/Assistant Professor: Ph.D. (Met)**  
with specialization in Synoptic Meteorology.

**Lecturer/Assistant Professor: Ph.D. (Met)**  
with specialization in Physical Meteorology.

**Lecturer/Assistant Professor: Ph.D. (Met)**  
with specialization in Dynamic Meteorology.

**Lecturer/Assistant Professor: Ph.D. (Met)**  
with specialization in Climatology.

**Lecturer/Assistant Professor: Ph.D. (Met)**  
with specialization in Hydro-Meteorology.

**Lecturer/Assistant Professor: Ph.D. (Met)**  
with specialization in Agro-Meteorology.

**Lecturer/Assistant Lecturer: M.Sc. (Met)**  
with good teaching in Meteorology.

**Meteorologist M.Sc. (Met)**

with good experience in Weather Analysis.

**Meteorologist M.Sc./B.Sc. (Met)**

experience in handling Meteorological Instruments.

**Assistant Meteorologist B.Sc. (Met)**

experience in Meteorological observation and plotting.

**Assistant Meteorologist B.Sc. (Met)**

experience in practical Agro-Meteorology.

**Assistant Meteorologist B.Sc. (Met)**

experience in practical Hydro-Meteorology.

**Chief Observer (Demonstrator) (5)**

B.Sc./Secondary School Certificate in Weather Observations.

At least 5 years' experience in observational and plotting duties.

We are in fact looking for well-qualified, experienced and energetic persons to work in our Science Faculty. Very attractive terms and conditions of service are offered under the revised pay scales. On receipt of applications we will communicate our detailed terms and conditions of service to those candidates whom we find suitable.

Please apply in confidence with detailed bio-data and photos of copies of certificates/degrees/testimonials. Applications should be addressed to The Dean, Faculty of Sciences, King Abdulaziz University, P.O. Box 1540, Jeddah, Saudi Arabia, clearly mentioning the post and department for which the application is made. All applications must be received by July 31st 1975.

Selected candidates would be required to join the Faculty at Jeddah by 1st September 1975.

On finalization of selection, contract will be executed through the Saudi Arabian Cultural Attaché in London or New York as the case may be.

## Saudi Arabia

## Mechanical Engineering

### Lecturer

### from £6,000

The major mining companies and agencies that are responsible for mining, processing and marketing Zambia's copper reserves operate a Central Training Services Organisation. One of the main aims of this Organisation is to ensure that Zambian nationals have the opportunity to be trained in all aspects of the copper mining industry, which involves to a very large extent the field of Mechanical Engineering.

A Lecturer is required to both lecture and conduct appropriate practical sessions in mechanical technician subjects, following a syllabus of the Mechanical Technician/Technologist course laid down by the Government's Department of Technical Education and Vocational Training. The course equates approximately to the London City and Guilds Technician level and copies of the syllabus are available.

Applicants must have a degree, HNC or HNC or equivalent in mechanical or production engineering, followed by 5 years industrial or teaching experience.

Salary: From £6,000 gross per annum (£6,000 at an exchange rate of 1:1 = 80p). Additional benefits include return passages for employee and family, baggage allowance, tax free settling-in allowance, low rental housing, tax free allowance for children's education, free life assurance, interest free loan towards car purchase, generous paid leave.

For more information on Zambia's mining industry, a copy of the Course Syllabus, and an application form, write to:

Anglo Charter International Services Limited,  
Appointments Division, Dept. ATE 1107  
7 Rolls Buildings, London EC4A 3HX

## Zambia's Copperbelt

### an experience that counts for a lifetime

## CUMBERLAND COLLEGE OF

### HEALTH SCIENCES

Formerly: New South Wales College of Paramedical Studies

The Cumberland College of Health Sciences has been established in the Sydney Metropolitan Area under state legislation as an autonomous institution. It offers courses in Occupational Therapy, Speech Therapy, Nursing, Orthoptics and Physiotherapy.

Applications are invited for the following position:

## HEAD

### SCHOOL OF PHYSIOTHERAPY

Salary: \$A19,573 Range \$A20,202.

**Qualifications:**  
Applicants must have appropriate tertiary qualifications and experience in Physiotherapy.

**Duties:**  
Responsible to the Principal for the development and operation of educational programmes within the School and for leadership of the academic staff of the School.

**General:**  
Initial appointment will be to the New South Wales Public Service on the understanding that the successful applicant will become a servant of the College when it attains full corporate status.

Subject to certain conditions, the appointee will be eligible to contribute to an attractive superannuation scheme.

Leave conditions are comparable to those of tertiary institutions. A contribution may be made towards fares and removal expenses.

Applicants may, on request, receive a statement of the guiding principles and objectives of the College, together with a more detailed statement of the duties of the position. The successful applicant will be required to commence duty no later than February 1976.

Enquiries should be directed to the Secretary (tel. 2122369). Applications, containing full details of qualifications and experience and the names of at least three referees, close on 26 September 1975 with:

The Secretary,  
Cumberland College of Health Sciences,  
P.O. Box 3348, HAYMARKET,  
NEW SOUTH WALES, 2000, AUSTRALIA.

## Holidays and Accommodation

SWANSEA

Family House, Swansea West.

Room 6-90

Visitors: 0792-24691

## Reminder

Advertisements should reach

The Times Higher

Supplement

by the Friday prior to publication

and by 10.00

on publication for insertion

by 10.00

on publication for insertion

by 10.00

on publication for insertion

by 10.00

## Teachers' Union

from Mr P. G. Peacock

Sir—I hope those who share Dr Heskin's dissatisfaction with the AUT will read Eric Zucker's constructive proposals for a confederation of teachers' associations before they rush to join ASTMS (THES, June 6 and 13). The state of AUT affairs at the New University of Ulster (if correctly reported by Dr Heskin) is surely not typical. I do not find my colleagues in the AUT, either senior or junior, guilty of mere duplicity, dishonesty, disloyalty, sheer personal greed and incompetence—than the rest of mankind.

We have had fundamental disagreements on the AUT's salary policy; but we have also worked harmoniously on a wide variety of other matters of equal importance.

The problems afflicting the AUT are quite different from those described by Dr Heskin. One of them is to get more members to participate in the work of the association all the year round, and not simply at times of crisis. Another is to reconcile short term with long term interests. Another is to hold together the militants and those who have scruples about the use of industrial muscle. Another concerns what importance we attach to the rights of innocent and vulnerable third parties in industrial disputes. Such problems are not unknown in other unions including, I dare say, ASTMS. Dr Heskin is unlikely to escape them by running away.

Yours faithfully,  
P. G. PEACOCK,  
Librarian,  
University of Stirling.

from Professor Mux Hamerton

Sir—I wish to make a few modest proposals for easing the present and probable future troubles of the universities.

The way in which British universities are organized is inappropriate to a state of continuous expansion. The assumption that this state obtains is now false; and even if our present financial troubles evaporated, it could not be forever true. It is, therefore, desirable to make a number of alterations, partly to relieve our present burdens, and partly to prepare for an eventual steady state. The suggestions made here are not supposed to be agreeable, only sensible.

During the eighteenth century, when a virtually "steady state" condition obtained, circulation of academics, and hence avoidance of need to wait for "dead men's shoes" was at least partially achieved by packing off fellows to adownson. Men in his right mind would now want to enter the church, so we need a substitute. Also, we need to discourage the too ready assumption that any occa-

demist post carries on automatic guarantee for life, and the excessive intake of postgraduates who are competent, but by no means initially devoted to scholarship.

Suggestion (1): A small number of posts in the various branches of the Civil Service, in the research councils, and in the nationalized industries should be bestowed by the Government to be in the gift of the universities, for persons who have already held academic posts for three to five years.

Suggestion (2): The contractual system for lecturers should be similar to that operated by the Medical Research Council for its research scientists; and renewal of contracts at the end of each five year period should not be regarded as automatic.

Suggestion (3): There should be a limit to the number of post graduate students any member of staff is allowed to supervise—perhaps not more than two from each year.

A serious symptom of our present discontent is the very low entrance qualifications being asked for by formerly serious departments (cases of 2 E's are known to me). This stems from the vicious system

authorities. I have to acknowledge also its less than flattering reference to the UGC as "... for so long the dustbin for failed Treasury men". I would however suggest, particularly to a reader in government, that some scholarly thought might be applied to the reasons why the control system centred

Public spending  
from Mr R. C. Griffiths

Sir—David Shapiro's "Don's Dirty" makes a shrewd point about the effectiveness of the University Grants Committee's control of public expenditure as compared with that of central government and local

## LETTERS TO THE EDITOR

### University changes

whereby grants are a function of student numbers. I find it hard to think of an alternative measure; but as a temporary step to relieve the immediate pressures towards disbandment:—

Suggestion (4): Departmental grants should depend upon the number of students who could be catered for, not for the number actually present.

Suggestion (5): Minimum entrance standards should be laid down (perhaps three C's).

It might become necessary to wind up some departments which were unable to maintain reasonable student numbers under suggestion five; but we should not shrink from this.

It is preposterous to devote scarce public resources to teaching students what bright and literate persons would, and should, take pains to teach themselves. Therefore:

Suggestion (6): The teaching of English at undergraduate level should cease, and all departments doing so should be wound up as soon as convenient.

As has shrewdly been observed by Bertrand Russell, in order to be of value, any philosophy must rest

upon a broad and solid foundation of learning that is not specifically philosophical. Hence, philosophy should be a graduate study only. Therefore:

Suggestion (7): The teaching of philosophy at undergraduate level should cease, and all departments doing so should be wound up as soon as is convenient.

It has long been noted that the worth of sociology has been negligible, the discipline largely consisting of the substitution of labels for thought. On the other hand, it cannot be ruled out a priori that there never will be any useful or illuminating outcome from such studies, and their total elimination is uncalled for. Therefore:

Suggestion (8): All but two of the country's departments of sociology should be wound up. The choice of the two survivors is a matter for discussion; but it is important that they should be as different in approach as possible, so as to generate fruitful argument.

Yours faithfully,  
MAX HAMMERTON,  
Professor of Psychology,  
University of Newcastle upon Tyne.

sector of public expenditure than appears to be possible elsewhere. The outcome might prove to be of great interest.

Yours faithfully,  
R. C. GRIFFITHS,  
Director of the Inter-University Council for Higher Education Overseas.

## DONCASTER LOCAL

### EDUCATION AUTHORITY

## DONCASTER INSTITUTE OF

### HIGHER EDUCATION

## APPOINTMENT OF

### PRINCIPAL

Applications are invited from persons with appropriate qualifications and experience for the post of Principal of the new Doncaster Institute of Higher Education. The Institute will be formed from an amalgamation, in September 1976, of Doncaster College of Art, Doncaster College of Education, Doncaster College of Technology, (including Wakeborough College of Further Education) and Scawby College of Education. The salary is likely to be initially at a point in the range £11,136 to £11,848.

The Authority is seeking to appoint a Principal who will lead the development of the new Institute, especially in matters of policy and standards, and will have the skills needed to interpret and relate the work of the Institute to education, industry, commerce and the community. The successful candidate will be expected to take up the post as soon as possible in advance of the formation of the Institute so that he or she may play a full part in its planning.

Application forms and further particulars may be obtained from the Director of Education, Education Department, Princeps, Doncaster, to whom completed forms should be returned by not later than 31st July, 1975.

## Administration

## LOUGHBOROUGH

### UNIVERSITY OF

### TECHNOLOGY

## ESTABLISHMENT

### ASSISTANT

Applications are invited from graduates or other appropriately qualified persons for a new post in the University Establishment Office. Responsibilities envisaged include: clerical work, recruitment and selection, wages administration and some statistics.

Salary on Grade 1A scale rising to a maximum of £3,990 plus threshold payments (under review, see note partially agreed). Postcard requests for further details and application forms to: Registrar (Establishment), Loughborough.

## CAREERS OFFICER

### (FURTHER AND HIGHER EDUCATION)

To be based at colleges and to work in a range of colleges with students up to HND level and with many part-time students including those at adult education centres and with the Open University. The full range of support services will be available, including the assistance of a Careers Information and Research Officer based at headquarters.

Candidates should have a degree or equivalent qualification and be qualified for and experienced in the work of the Careers Service.

Car mileage and subsistence expenses payable, together with generous relocation expenses in approved cases. Temporary accommodation may be available.

Salary: £3,555-23,804 plus £180 Surrey Allowance. Further details and application form from County Education Officer, County Hall, Kingston upon Thames, KT1 2DJ. Tel. 01-546 1050, Ext. 3484.

## SURREY

### COUNTY COUNCIL

## CANTERBURY

UNIVERSITY OF KENT

Applications are invited from

graduates for two posts of

ADMINISTRATIVE ASSISTANT in

the Academic Division of the

Faculty of Social Sciences (tel. 426725).

One post will be part-time

concerned with the work

of the Faculty of Social Sciences

(tel. 426725); the other will be

concerned with the work of the

Faculty of Education (tel. 427781).

The appointments will be

made on Administrative Grade

1A on the salary scale (at present

under review): £3,800 to

£7,500 per annum plus threshold

payments of £27.68 per

annum.

Notes: From 1st October,

1976, the equivalent scale now

under review will be £3,870 to

£7,570 per annum, plus threshold

payments of £28.55 per

annum.

Further particulars and application

forms may be obtained from the

Establishment Officer, The Registry,

The University, Canterbury.

For a full and complete

reference to the closing date for the receipt of

completed application forms is:

1st August, 1975.

## General Vacancies

LONDON, W.1

PRIVATE OUTGOING

TEACHING

POSTS AVAILABLE

IN THE FOLLOWING

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## Colleges of Further Education

LONDON, W.1

PRIVATE OUTGOING

TEACHING

POSTS AVAILABLE

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